



# California Energy Commission Spring 2006 Price Spike Report

## Media Briefing

*August 15, 2006*

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*Undersecretary of Energy Affairs, Resources Agency*



# California Energy Commission Report Results

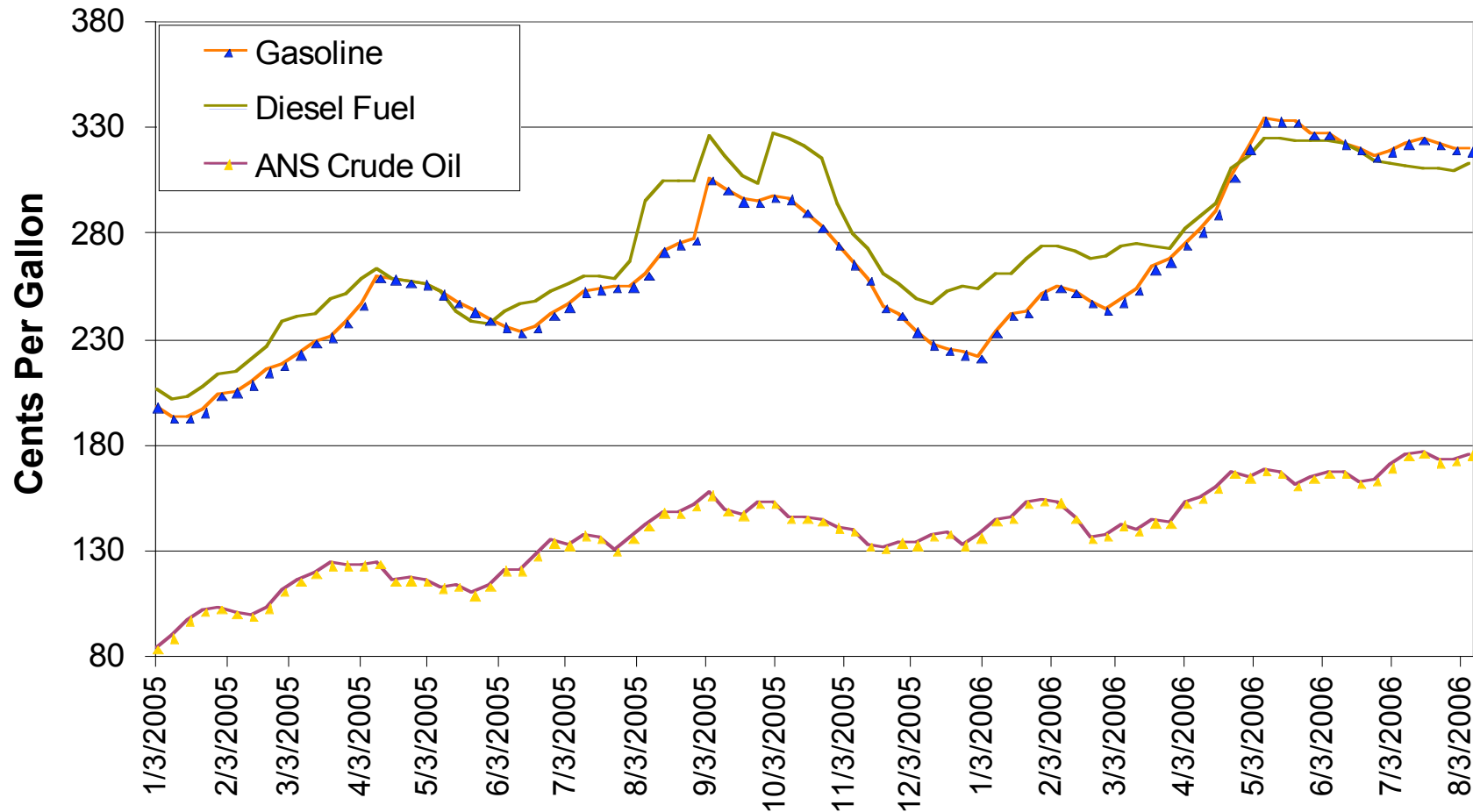
- Factors identified that contributed to price spike
- Economic impact quantified for California consumers and businesses
- Regional extent of price spike analyzed in detail
- Statewide variability of gasoline retail prices was characterized
- Financial information assessed to identify levels of profitability for petroleum companies operating in California
- Recommendations developed to enable more thorough monitoring and analysis of California's petroleum market



# Price Spikes and the Petroleum Market



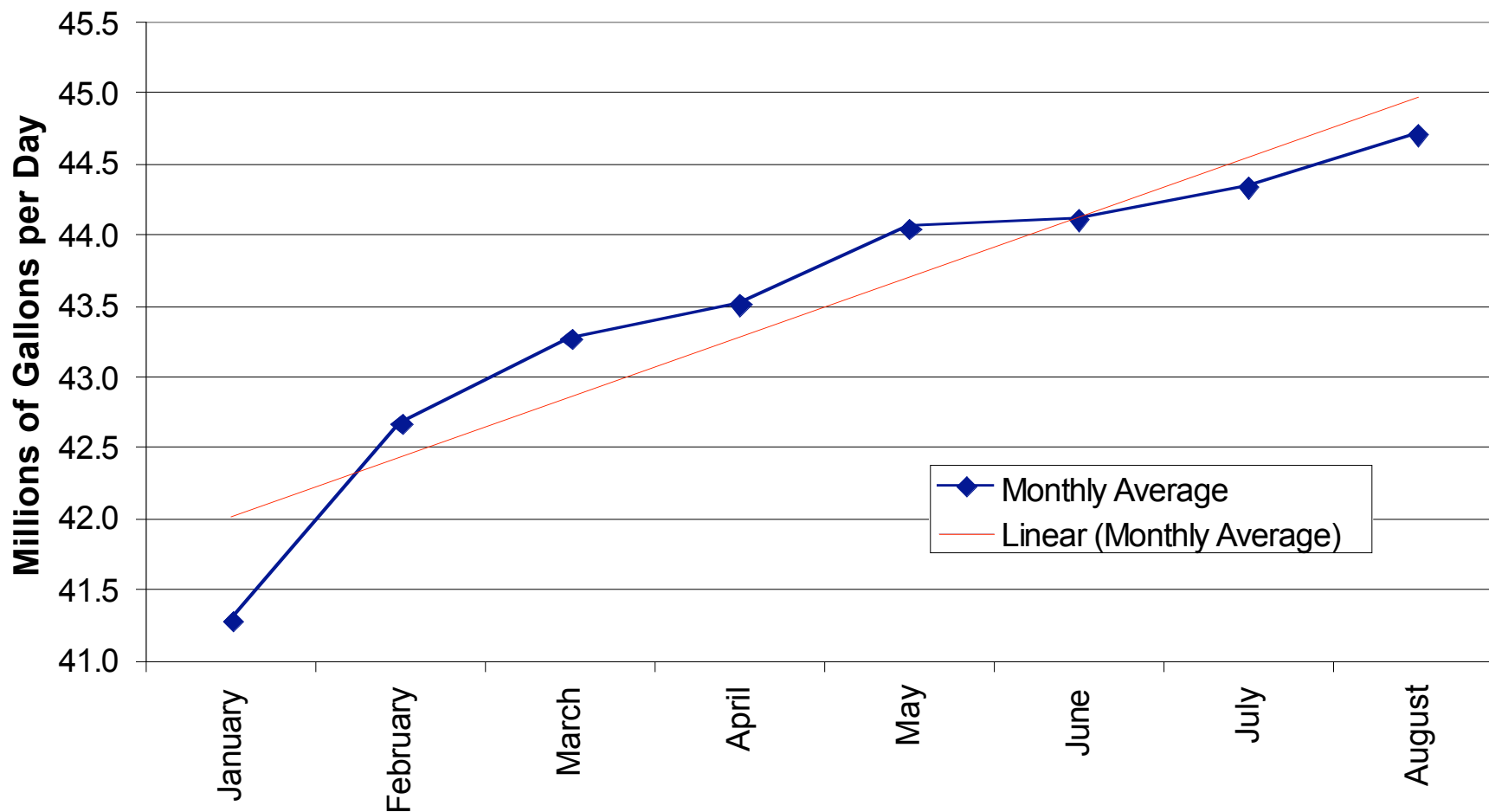
## California Retail Fuel Prices Gasoline and Diesel Fuel versus Alaska North Slope (ANS) Crude Oil January 2005 through July 2006



Sources: Energy Information Administration (EIA) – California retail prices. Alaska crude oil prices – Wall Street Journal.



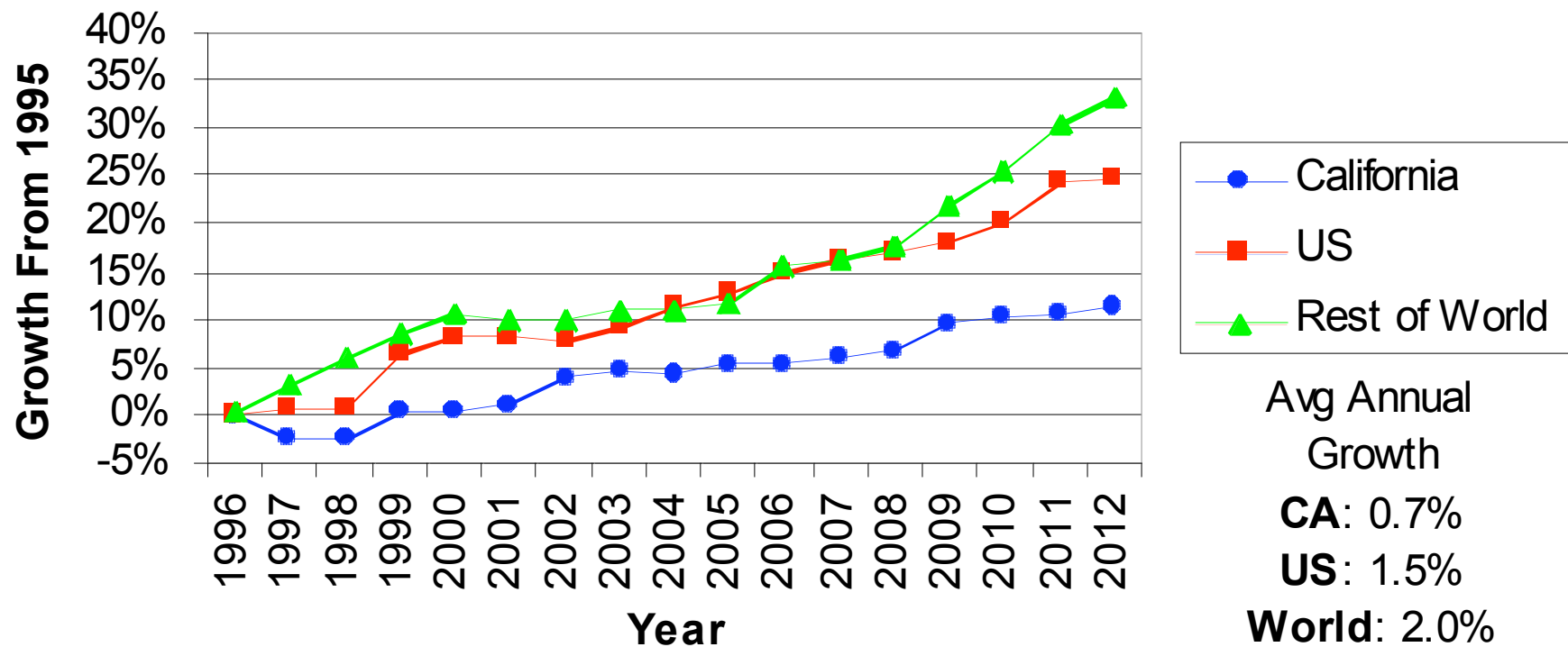
## California Gasoline Monthly Demand Seasonal Increases 2003-2005 Average



Source : Analysis of California State Board of Equalization taxable gasoline sales figures.

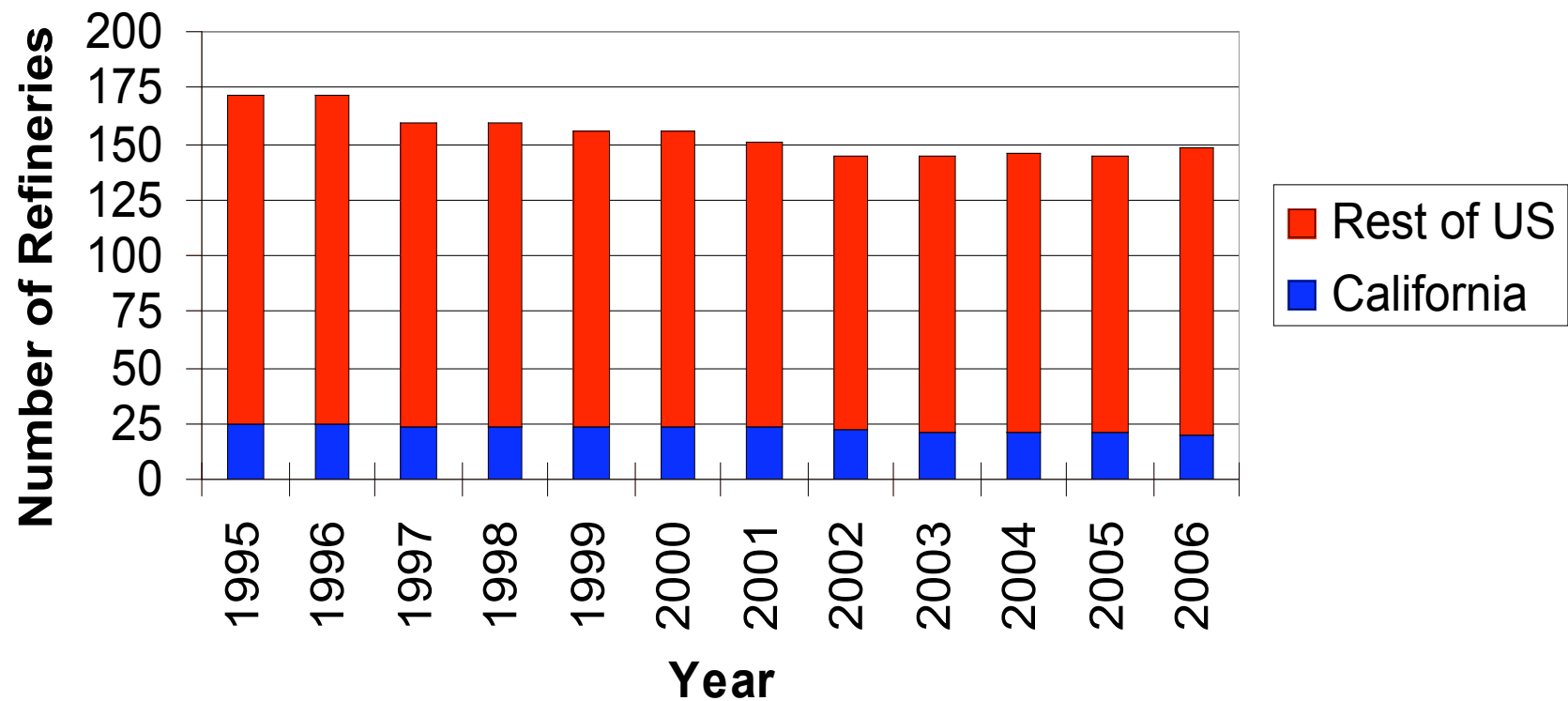


## Refinery Capacity Growth





## Refinery Count





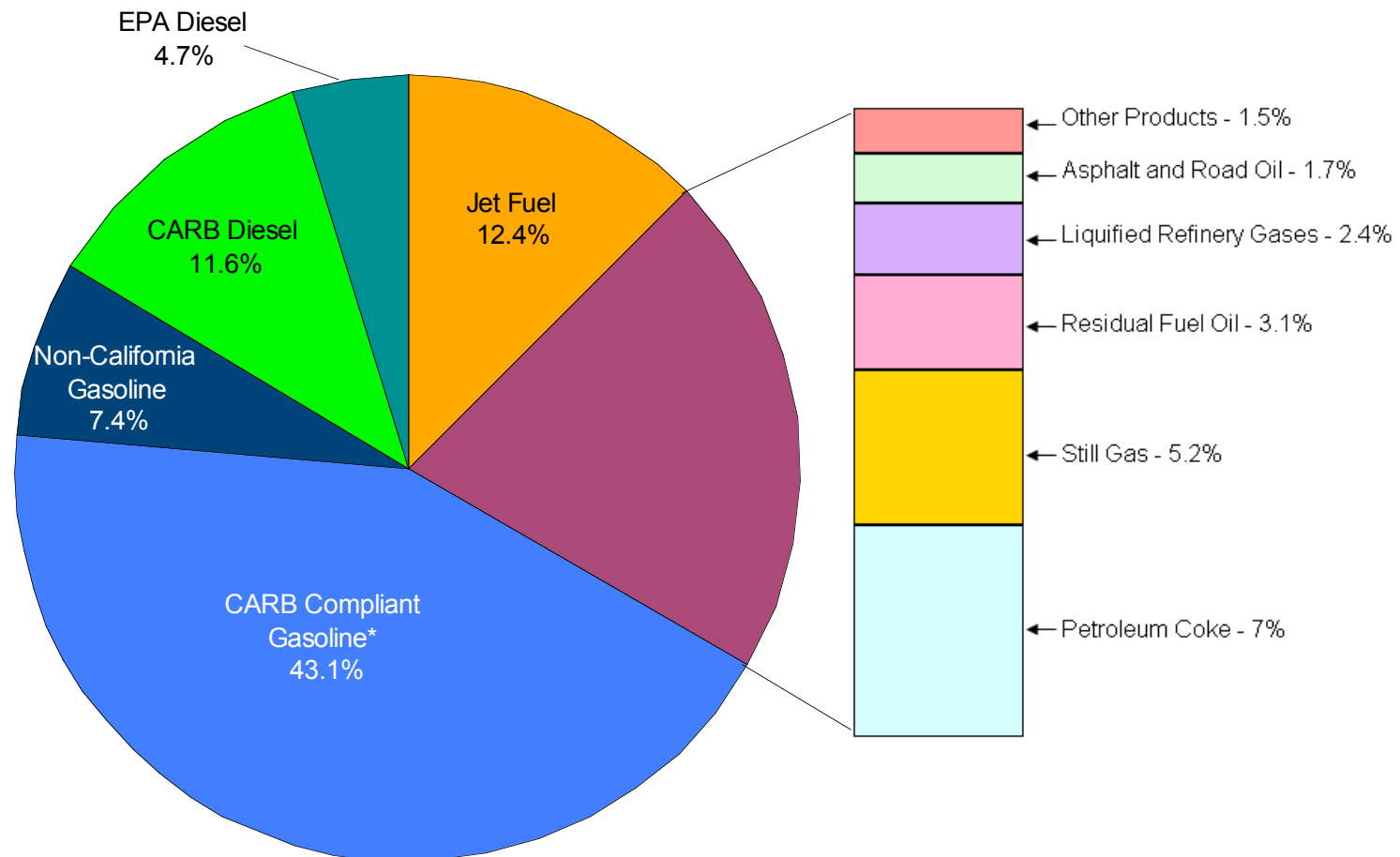
Types of petroleum products that are produced by refineries are influenced by:

- fuel specifications
- quality of the crude oil processed
- complexity of the refinery
- supply/demand balance of the local petroleum markets





### California Refinery Output in 2005 by Product Type

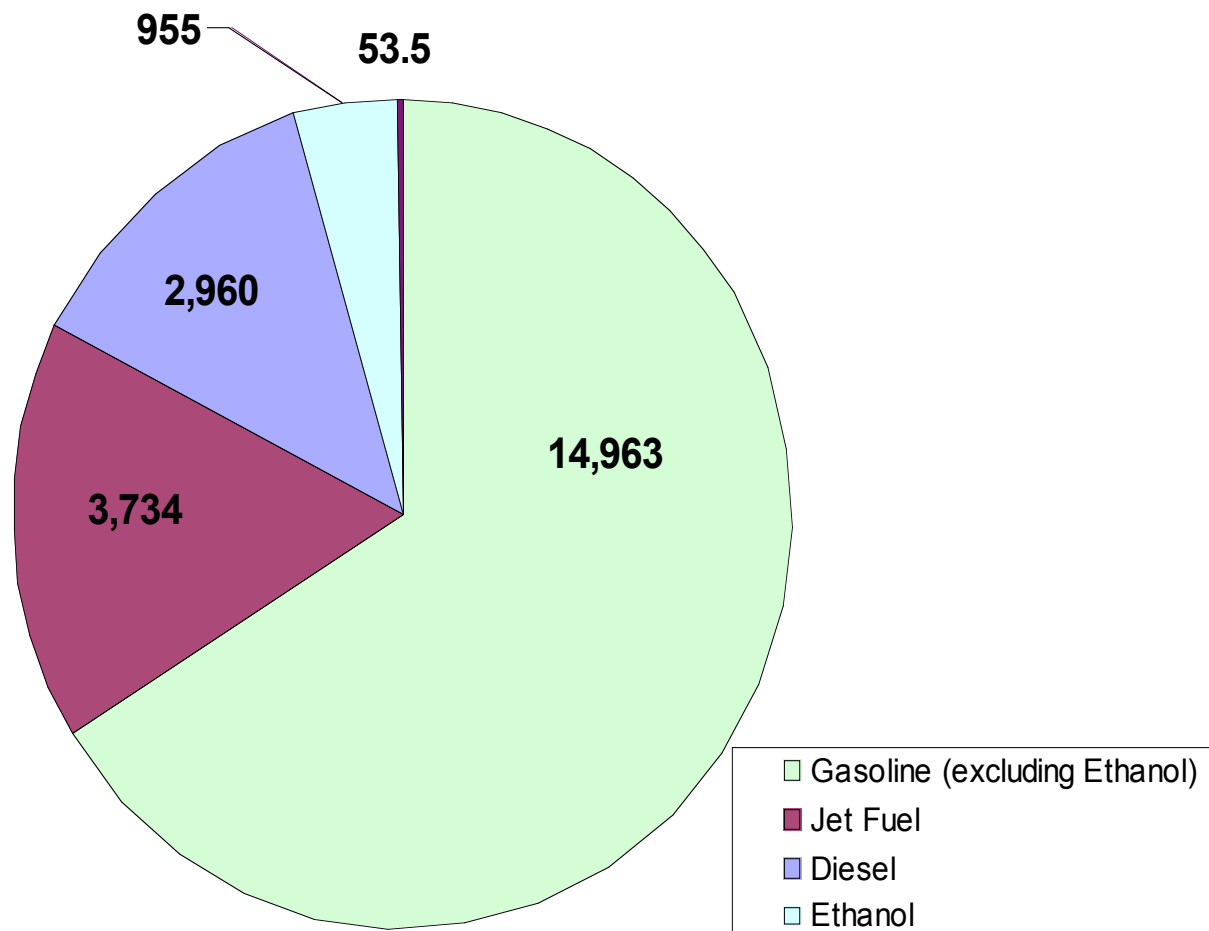


\*Note: Does not include ethanol.



## 2005 Demand for Petroleum and Alternative Fuels

(millions of gallons)



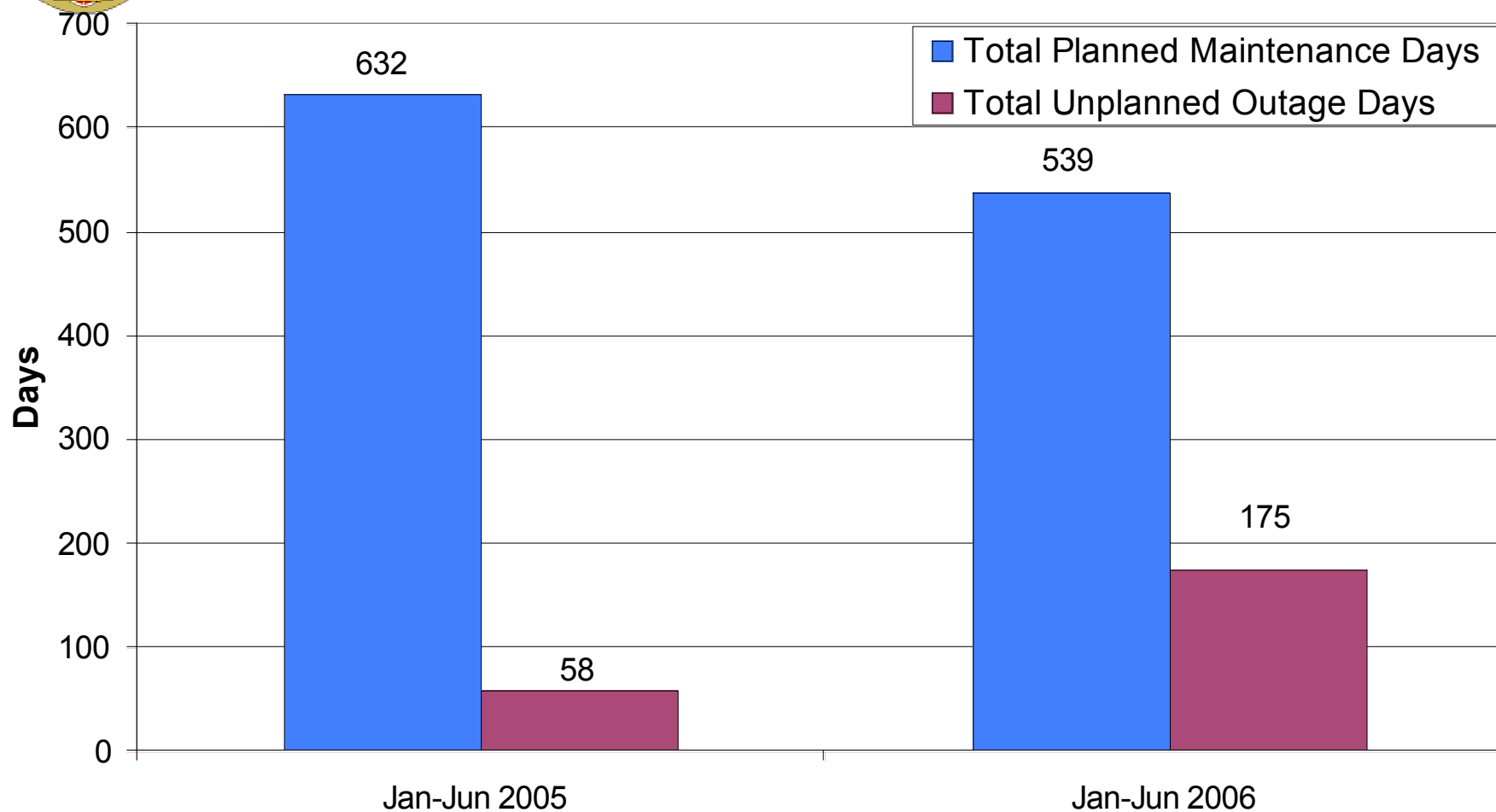


## **Market Operational Factors that Contributed to the Spring 2006 Price Spike**

- Refinery unplanned outages and planned maintenance
- Refinery production of gasoline and diesel fuel
- Inventory levels for petroleum products
- Pipeline exports to Nevada and Arizona
- Congestion of marine infrastructure operations in Southern California
- March 2006 Alaska North Slope crude oil distribution system leak
- Transition to new fuel specifications



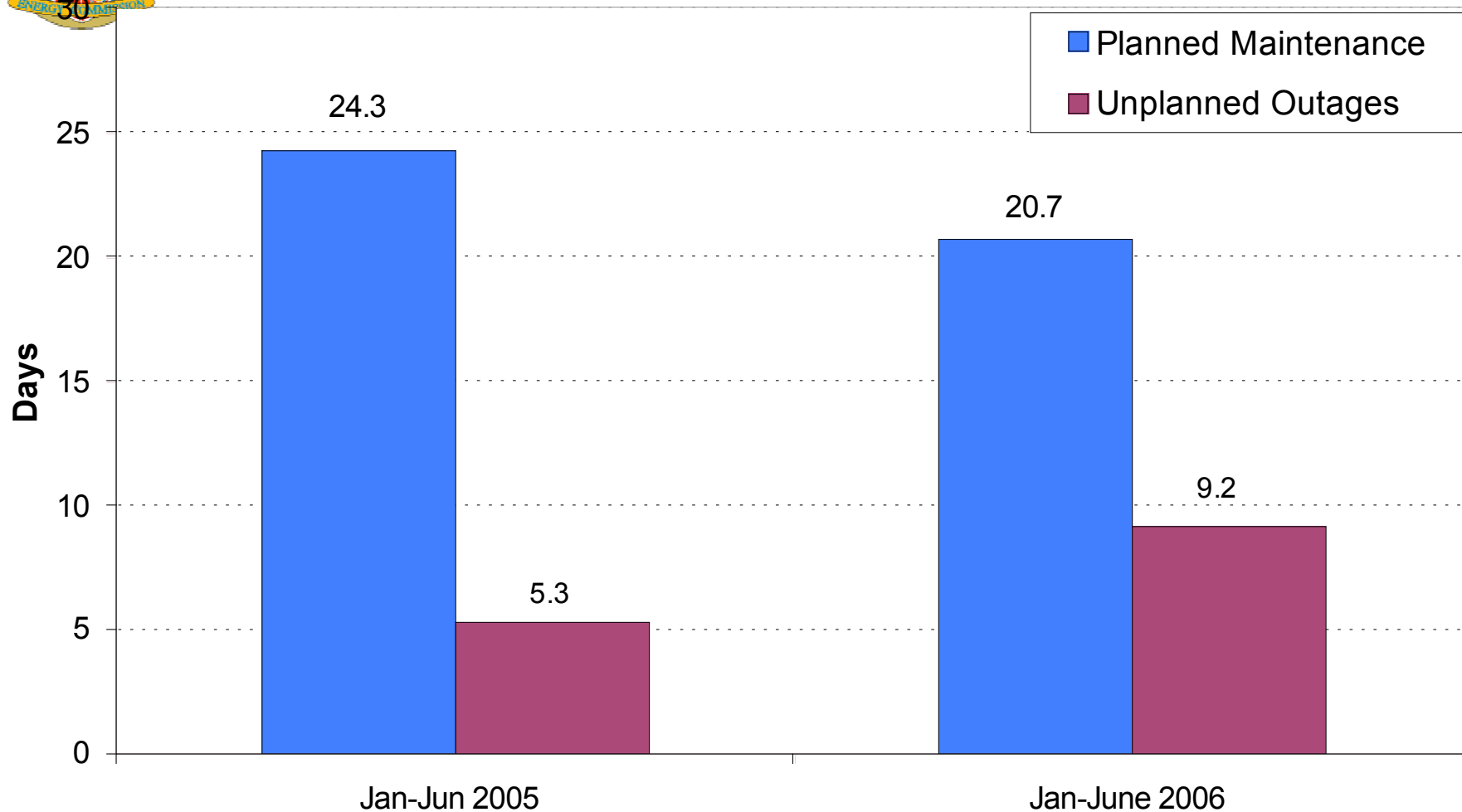
## California Refinery Events - Number of Days (First Six Months of 2005 versus 2006)



Source: CEC Petroleum Industry Information Reporting Act ( PIIRA ) database.



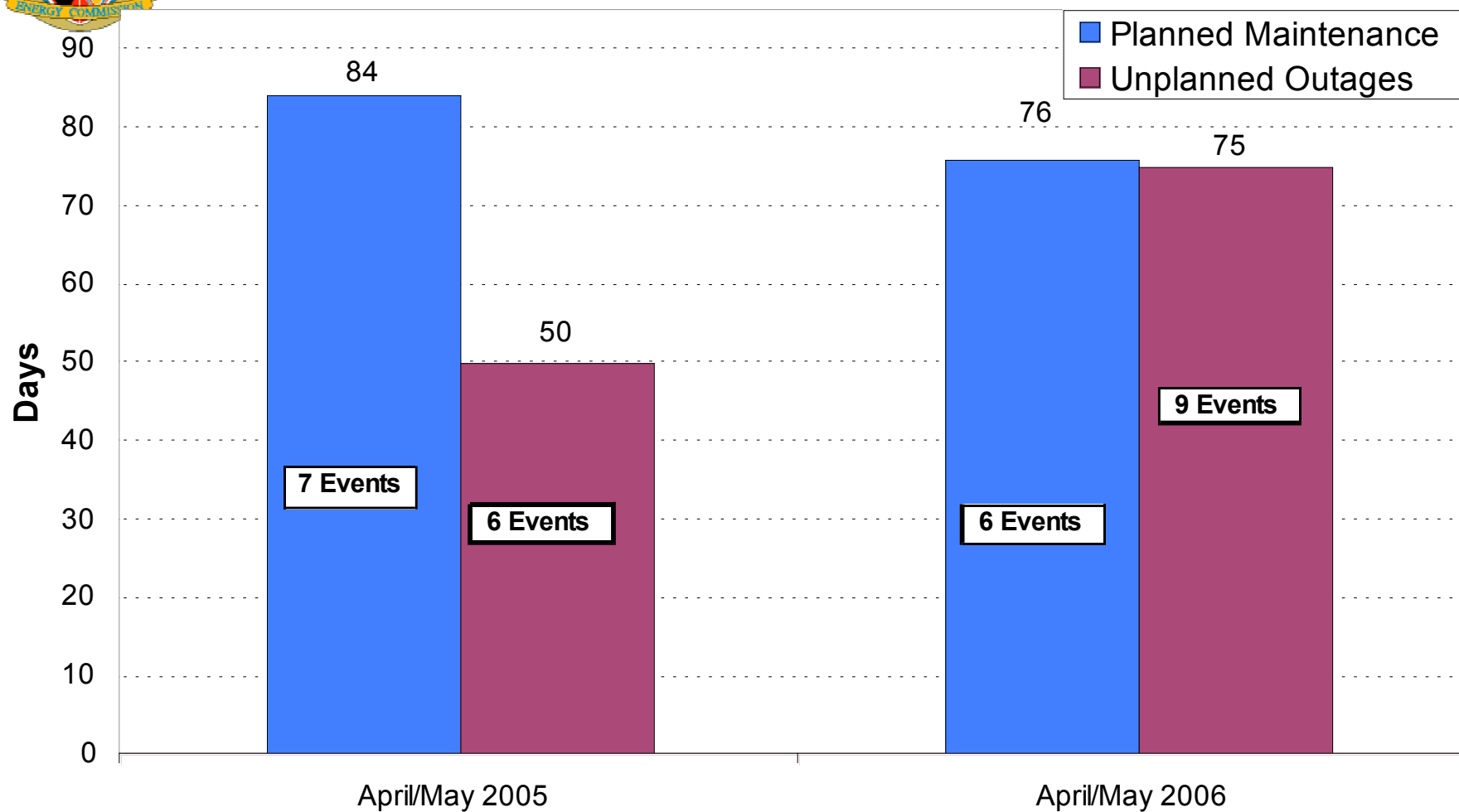
## Average Number of Days per California Refinery Event (First Six Months of 2005 versus 2006)



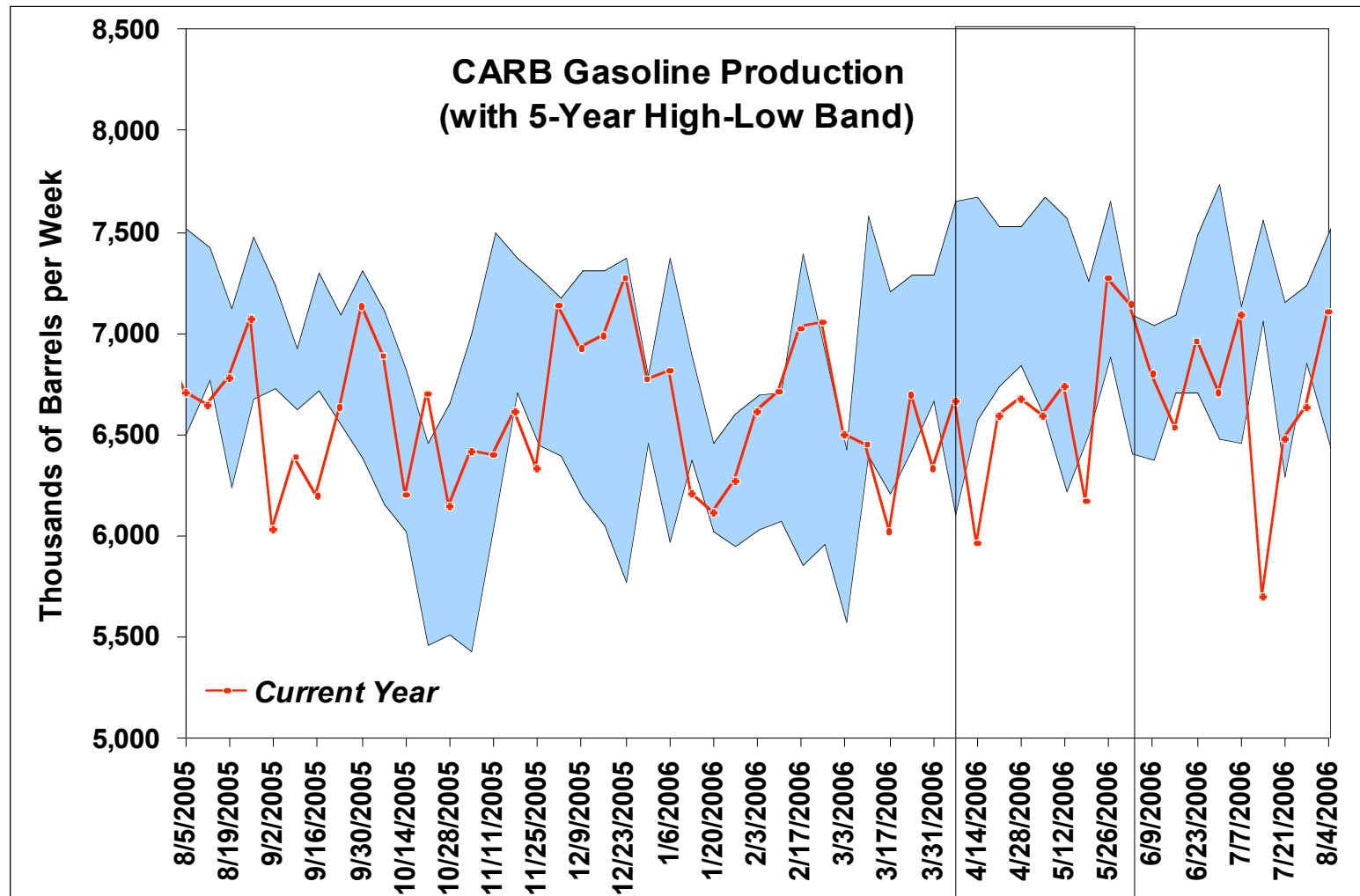
Source: CEC Petroleum Industry Information Reporting Act ( PIIRA ) database.



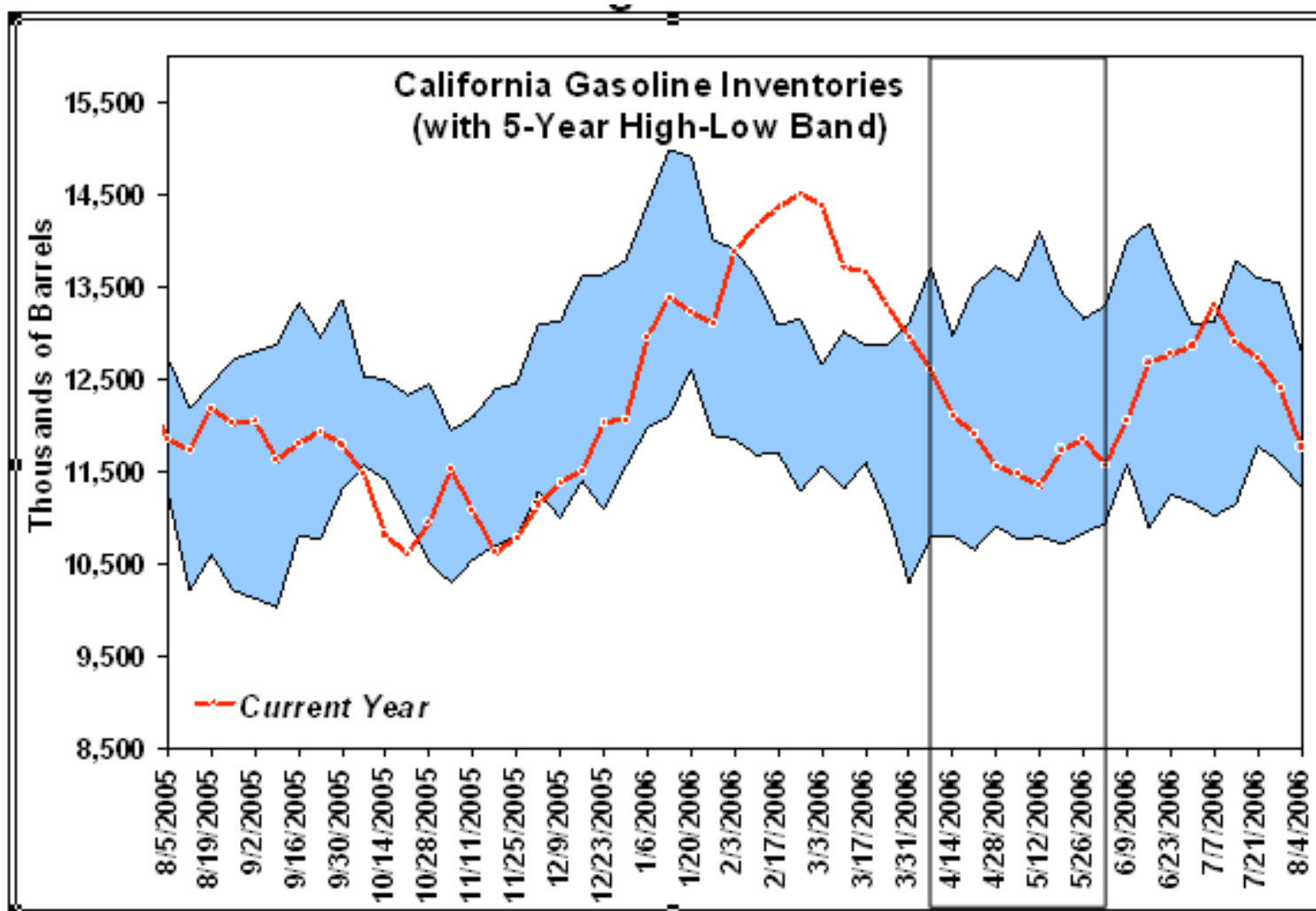
## Number of Event Days for California Refineries April/May 2005 versus April/May 2006



Source: CEC Petroleum Industry Information Reporting Act ( PIIRA ) database.

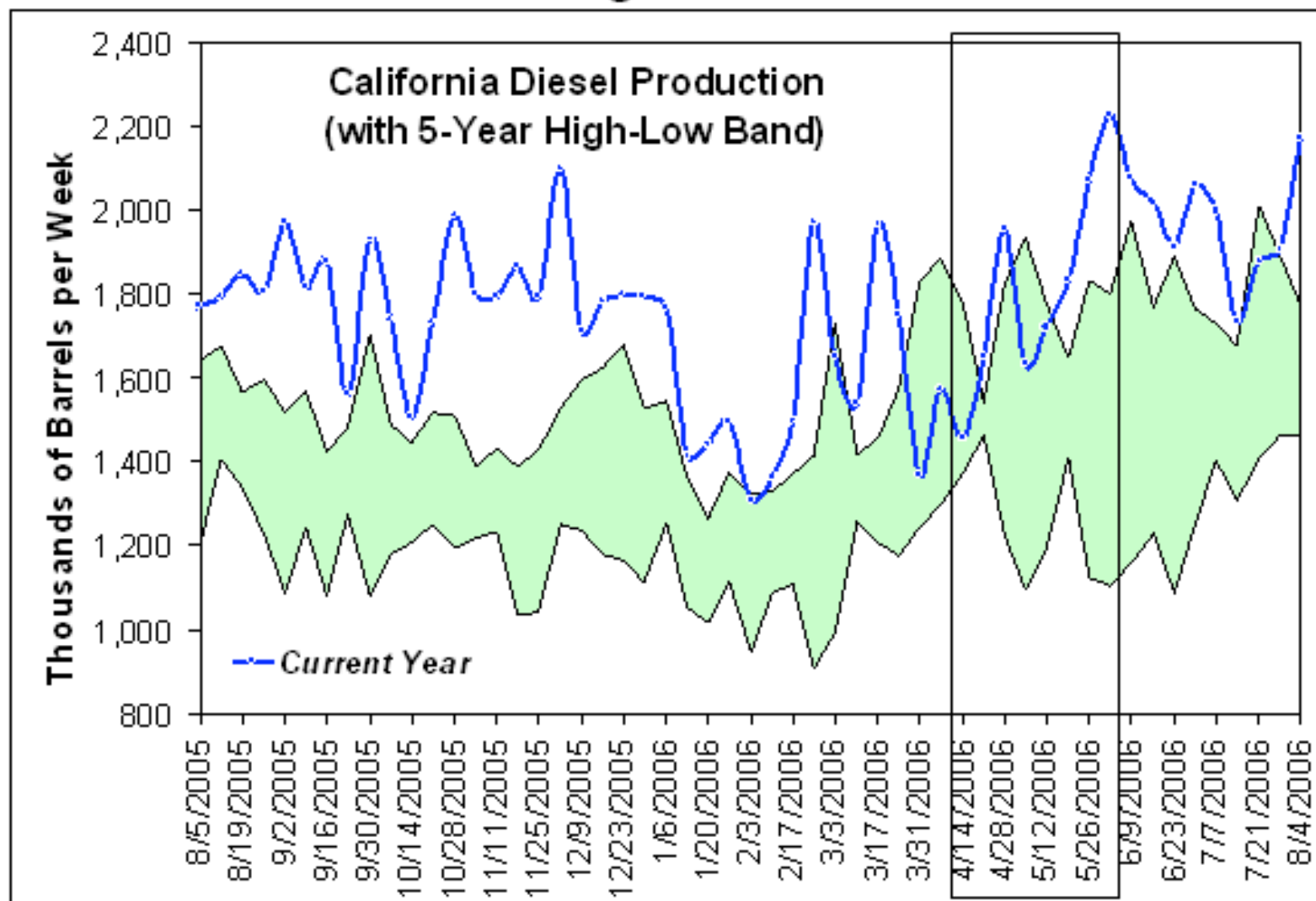


Source: CEC Petroleum Industry Information Reporting Act (PIIRA) database.

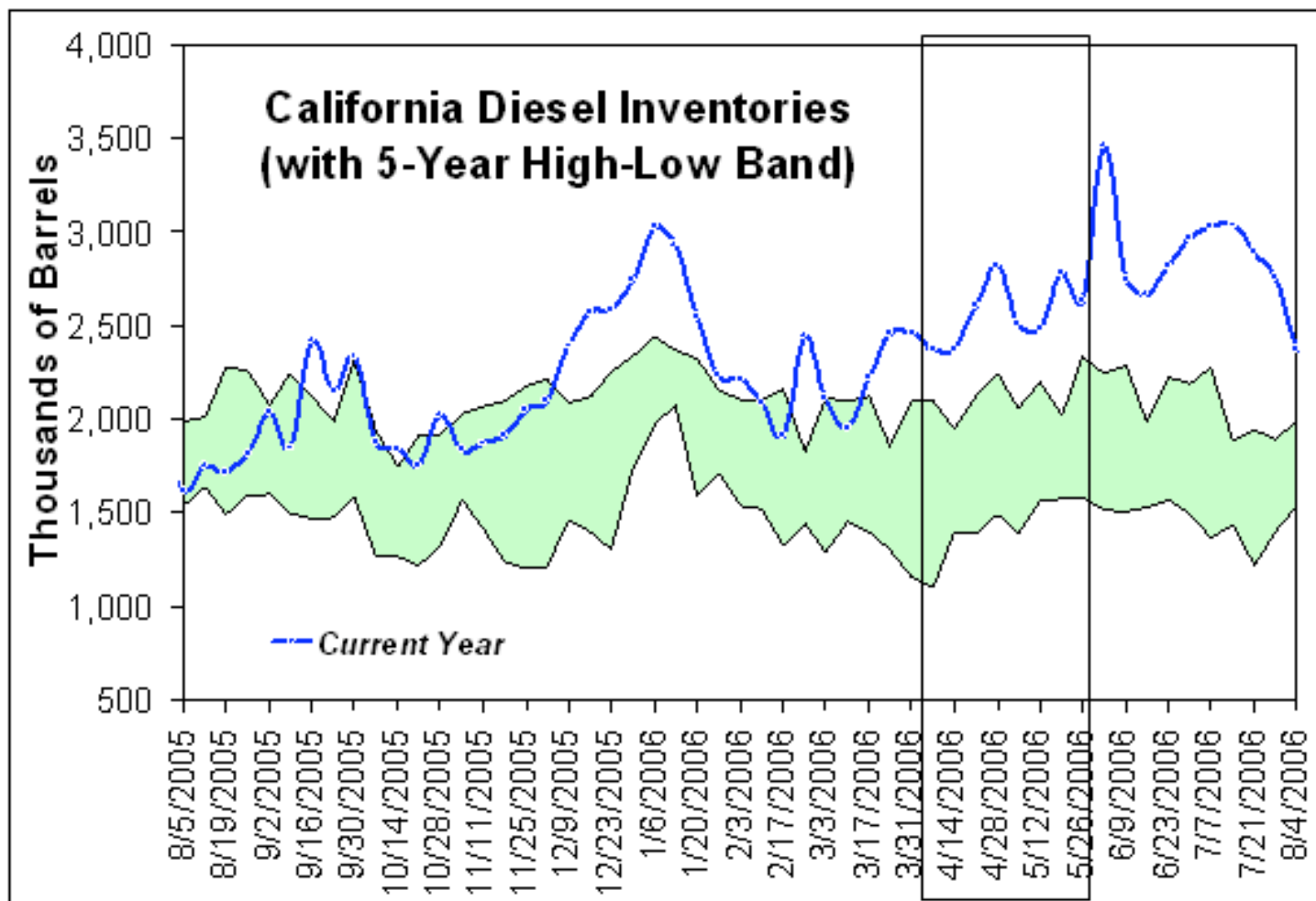


Source: CEC PIIRA database.





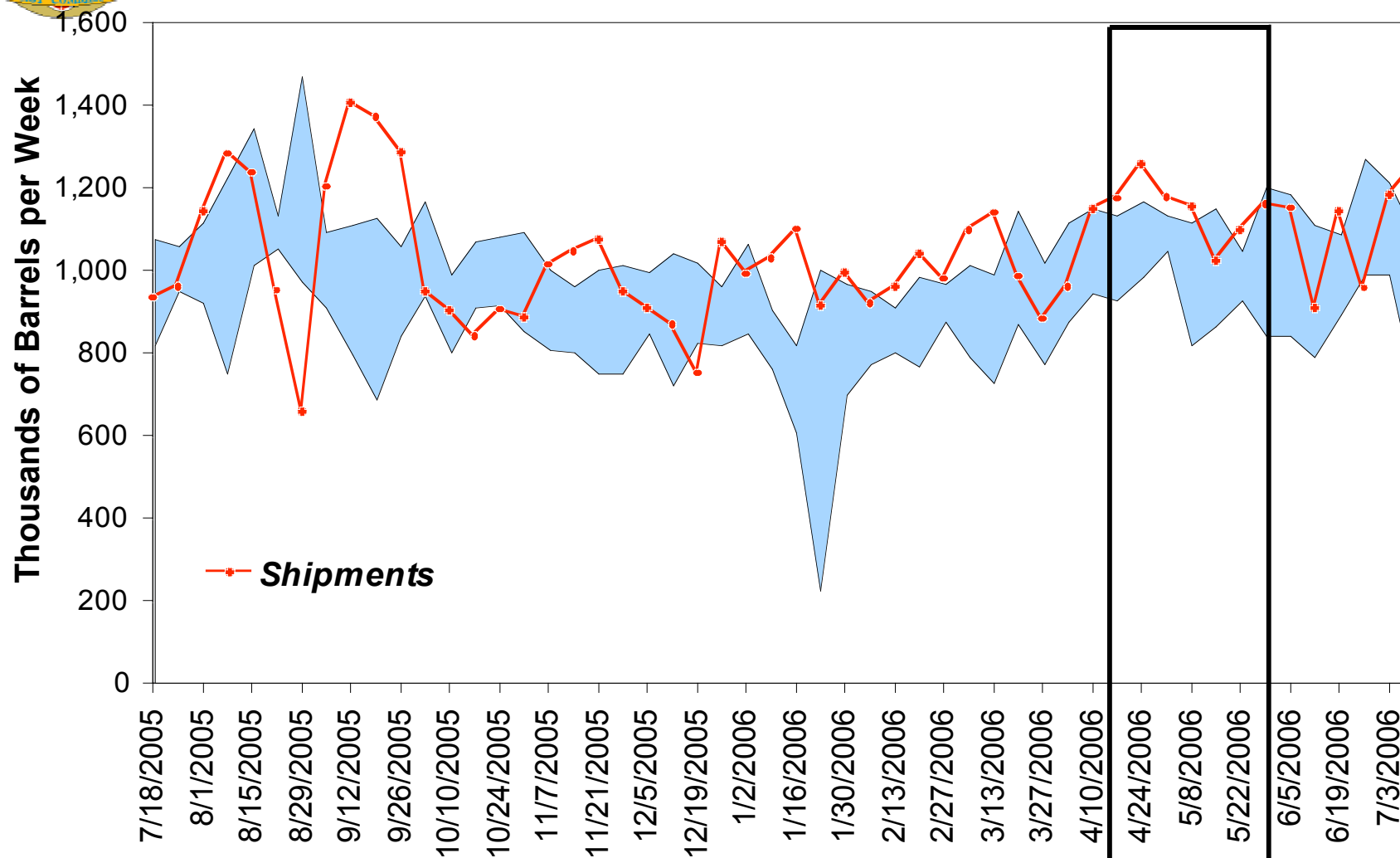
Source: CEC PIIRA database.



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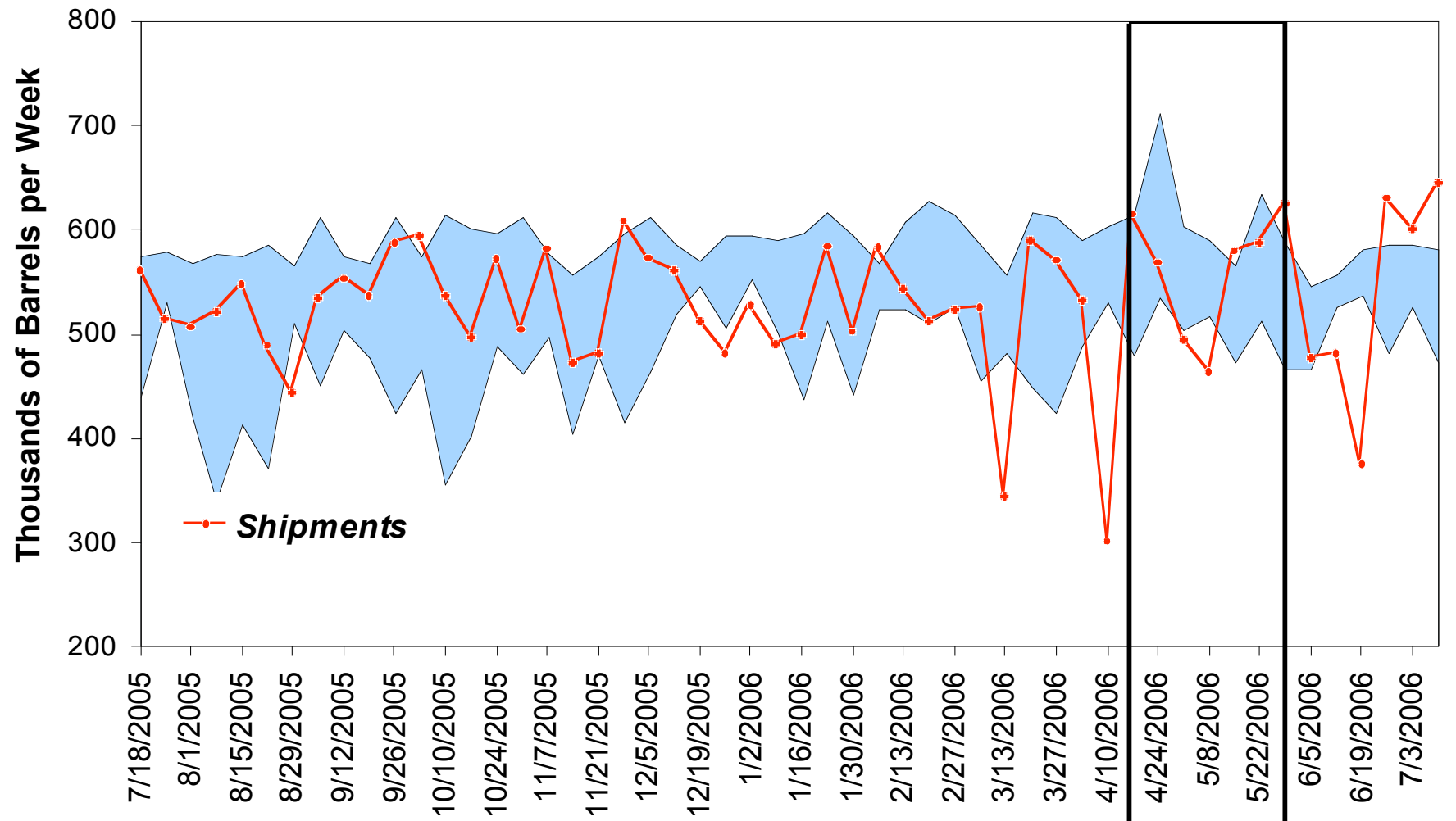
## Weekly Gasoline Pipeline Exports from California (with 5-Year Hi-Lo Band and Retail Gasoline Price Overlay)



Source: CEC Petroleum Industry Information Reporting Act (PIIRA) database.



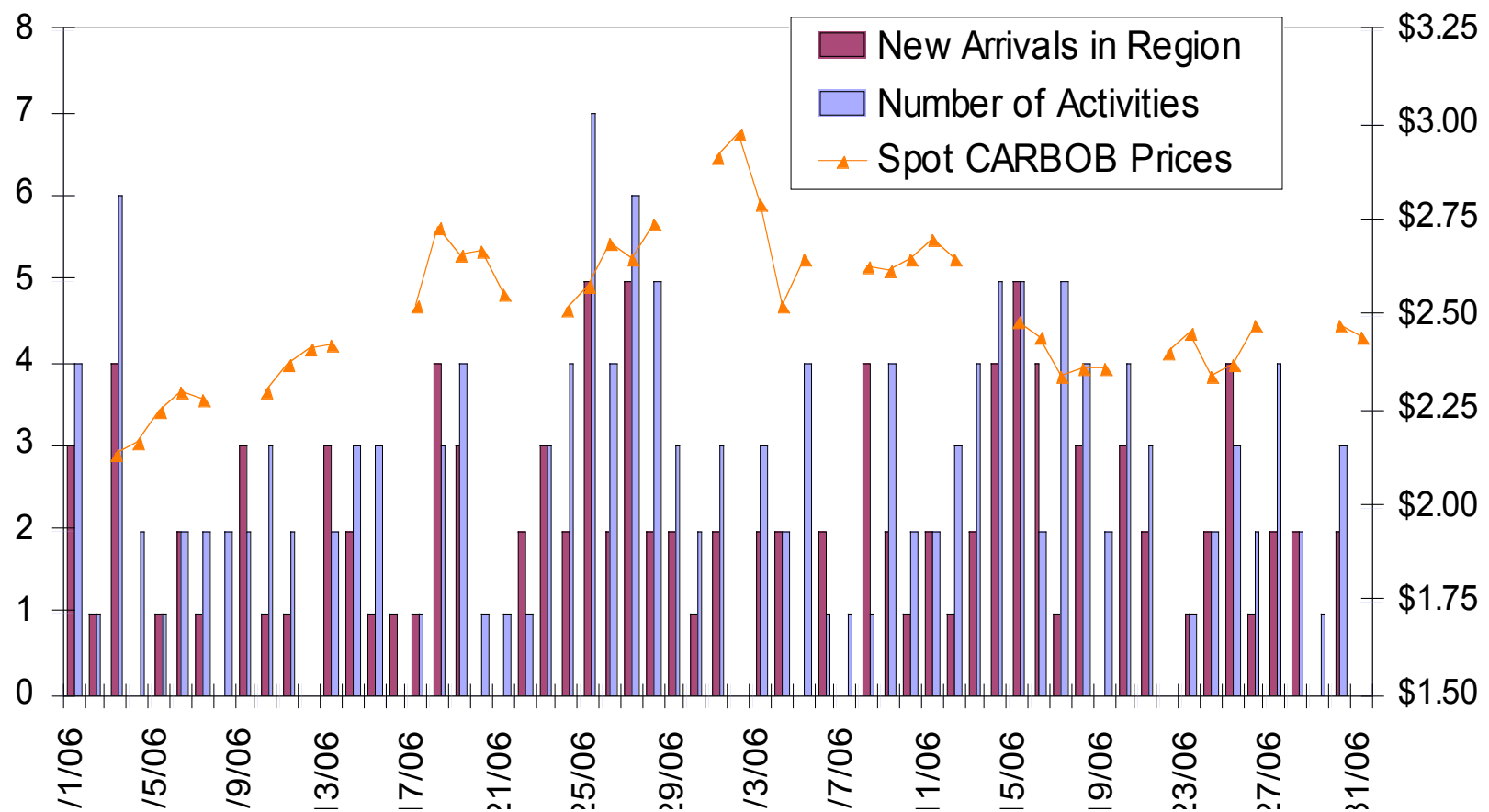
## Weekly Gasoline Pipeline Shipments to Arizona from Texas (with 5-Year Hi-Lo Band)



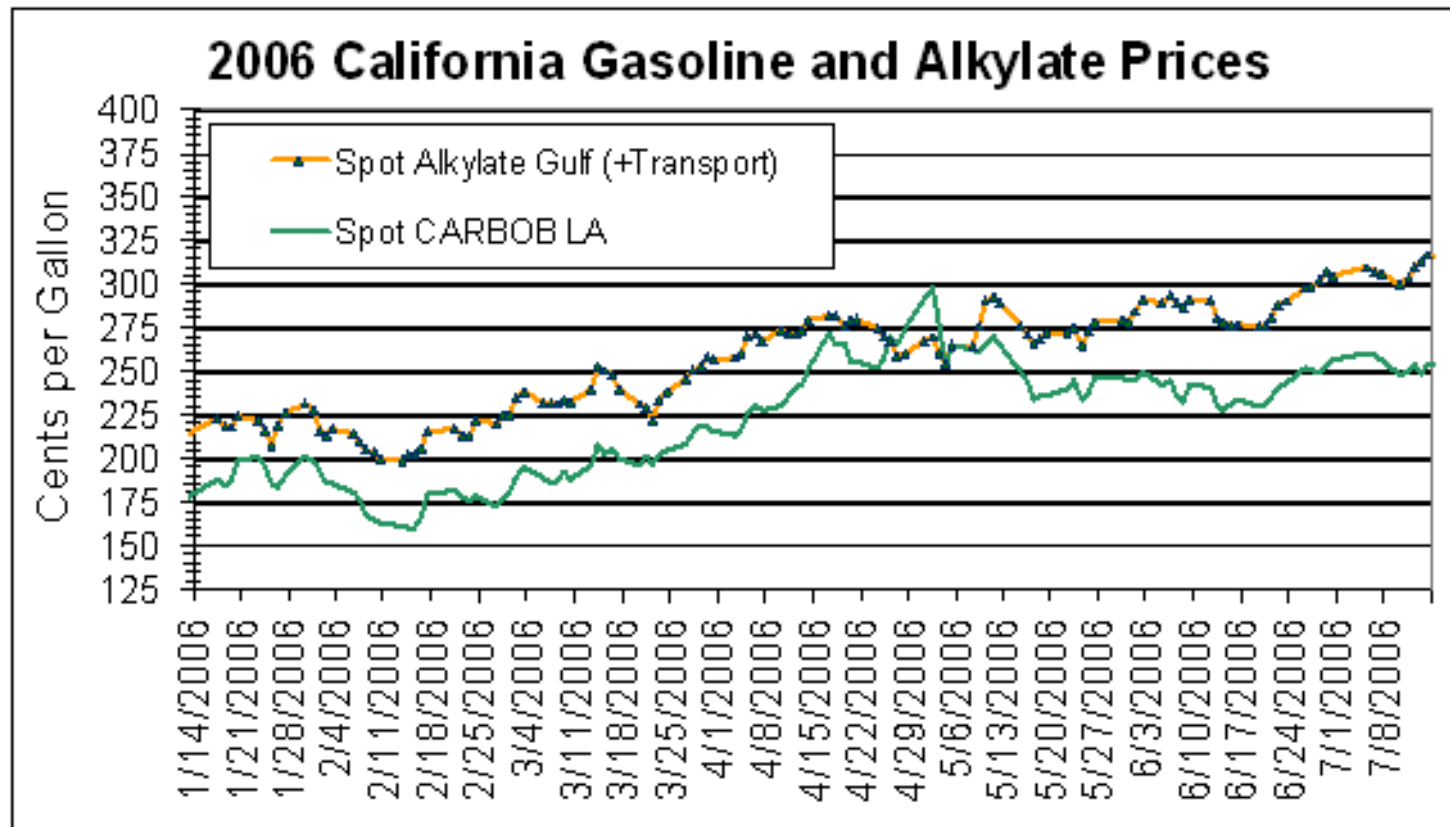
Source: CEC Petroleum Industry Information Reporting Act (PIIRA) database.



## Petroleum Product Tanker Arrivals/Activities in Southern California versus LA Spot CARBOB Prices (April-May 2006)



Source: CEC analysis of Marine Exchange of Southern California data.



Sources: OPIS for spot CARBOB prices in Los Angeles and Platt's for Gulf Coast alkylate values.

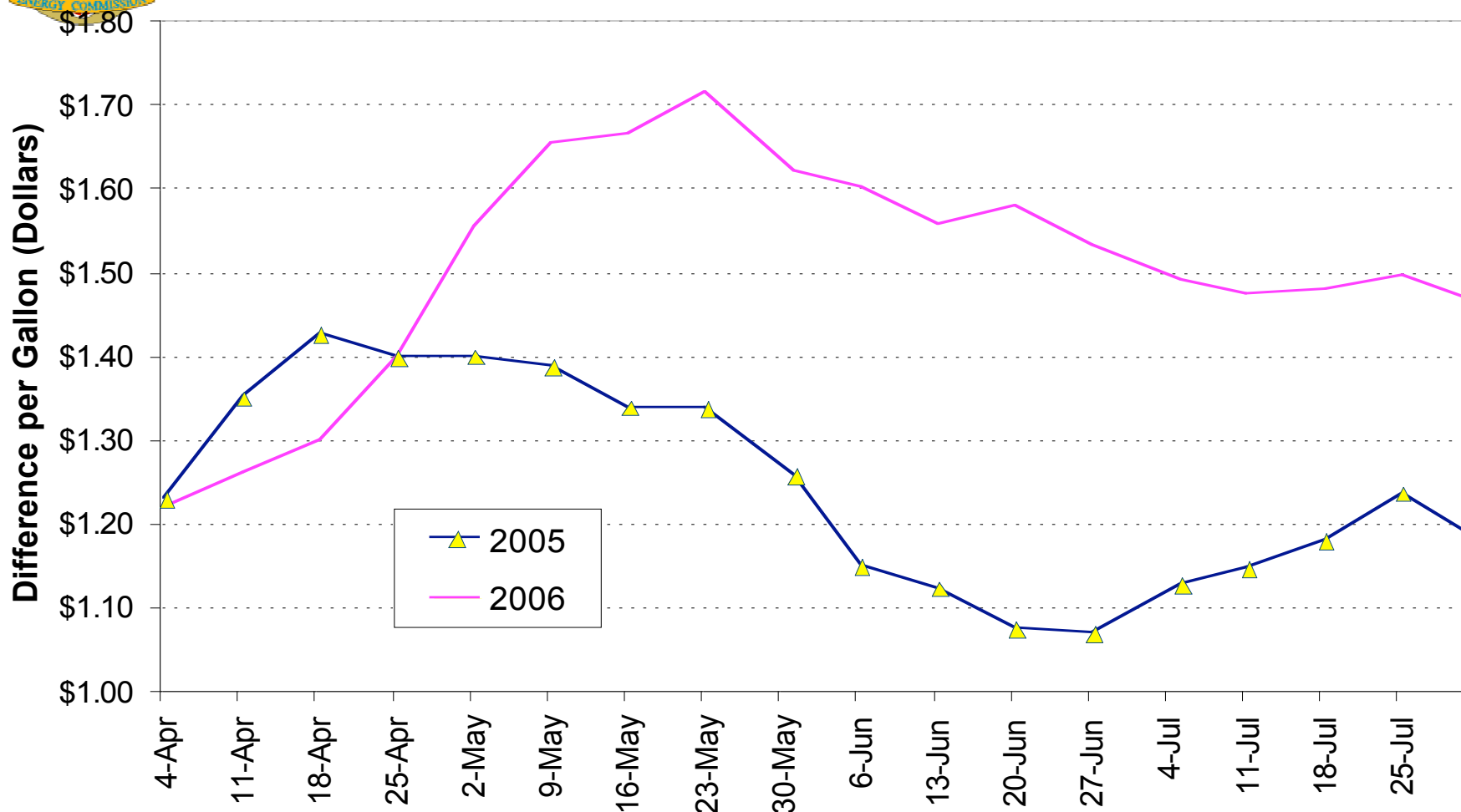


## **Economic Impact on California Consumers and Business**

- Price spike increased gasoline costs to California consumers by \$1.3 billion from April 25 through July 31, 2006
- The impact on businesses due to higher diesel fuel prices over the same period of time was approximately \$170 million
- No attempt was made to quantify secondary costs for the California economy as a whole that occur when increased transportation costs are passed to consumers in the form of higher priced goods and services.



## 2005 and 2006 Average Weekly Retail Gasoline Price Minus Weekly Alaska North Slope (ANS) Crude Oil Price

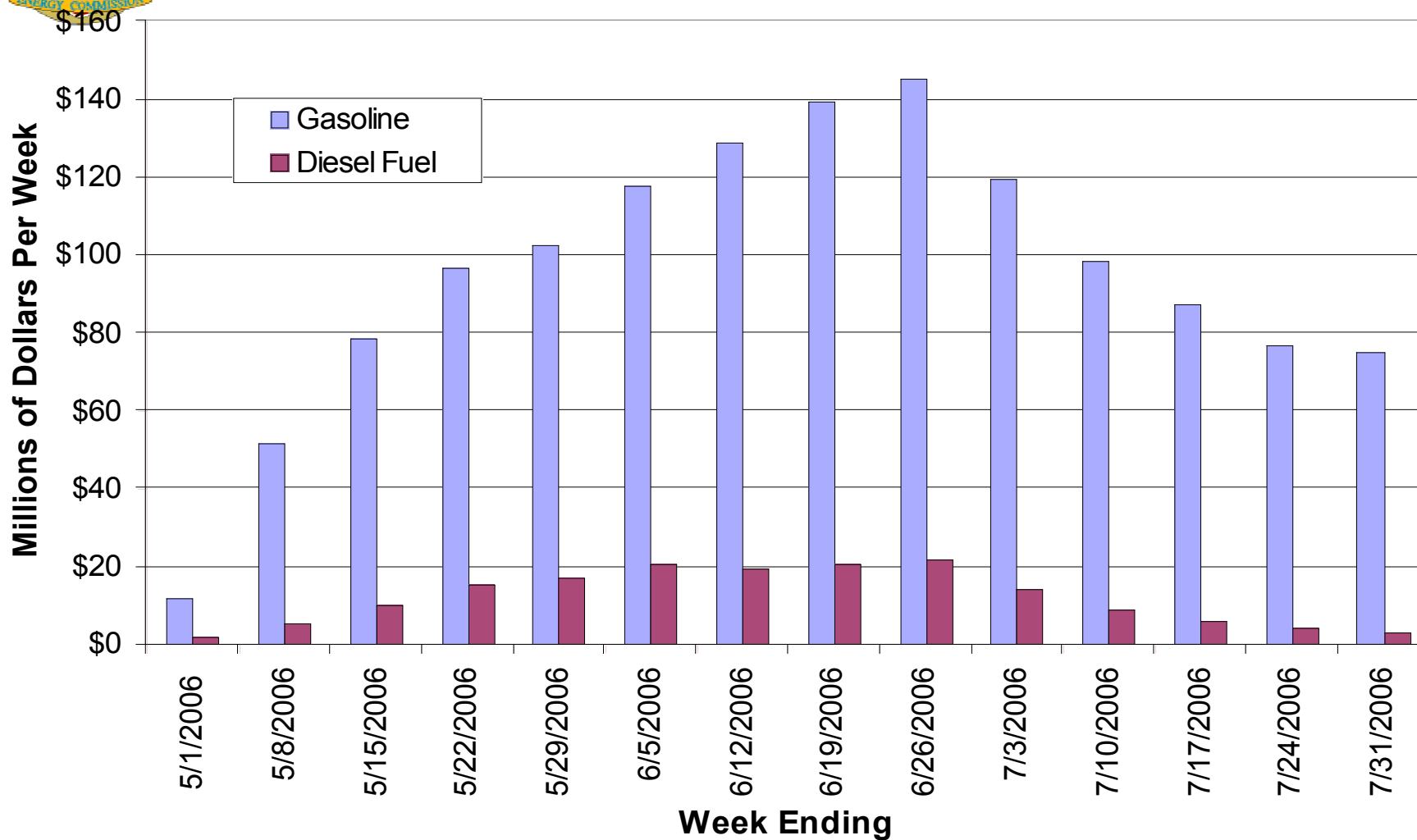


Sources: Energy Information Administration (EIA) – California retail prices. CA BOE – taxable gasoline fuel sales. Alaska crude oil prices – Wall Street Journal.

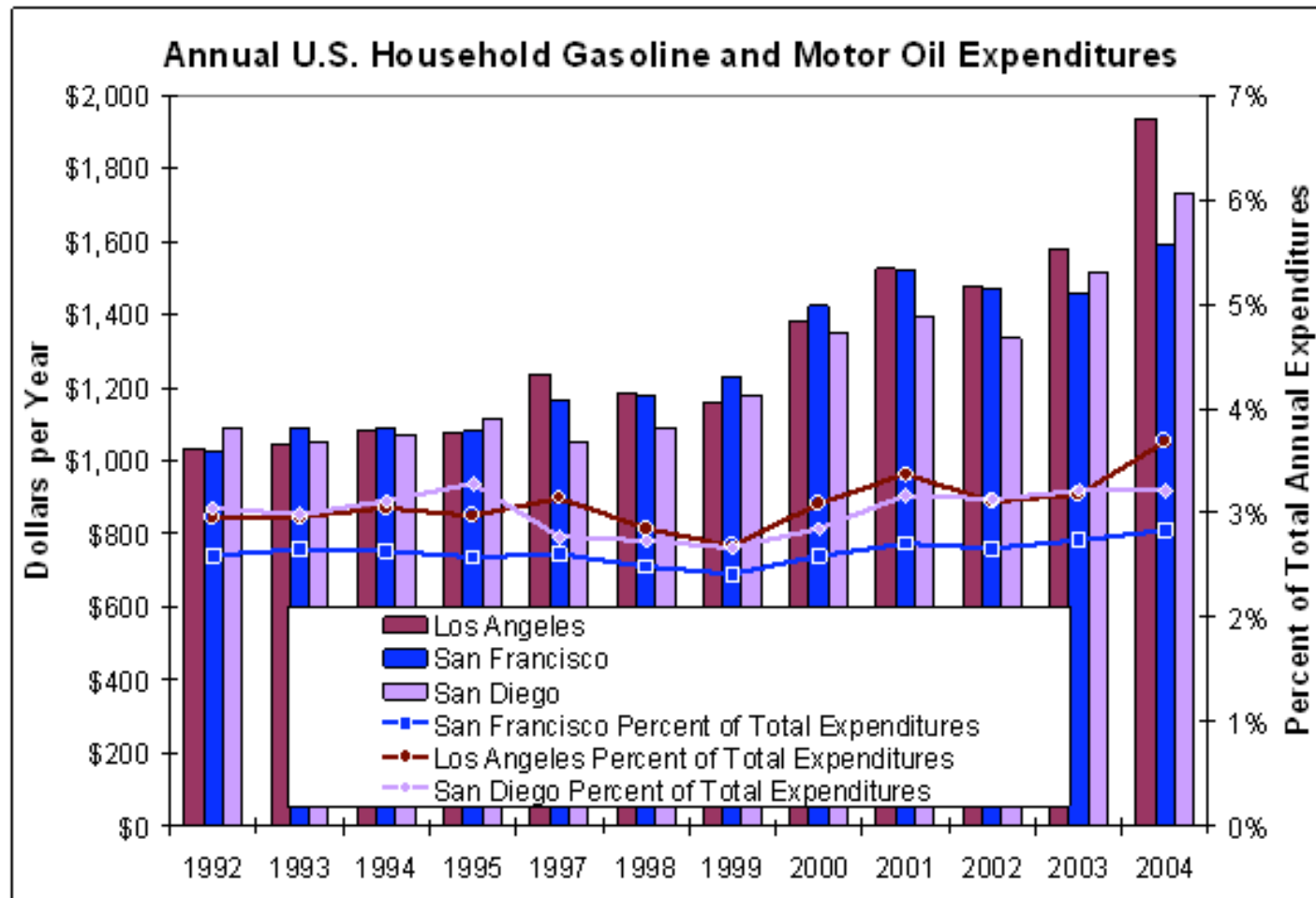




## Incremental Transportation Fuel Costs California Consumers & Business



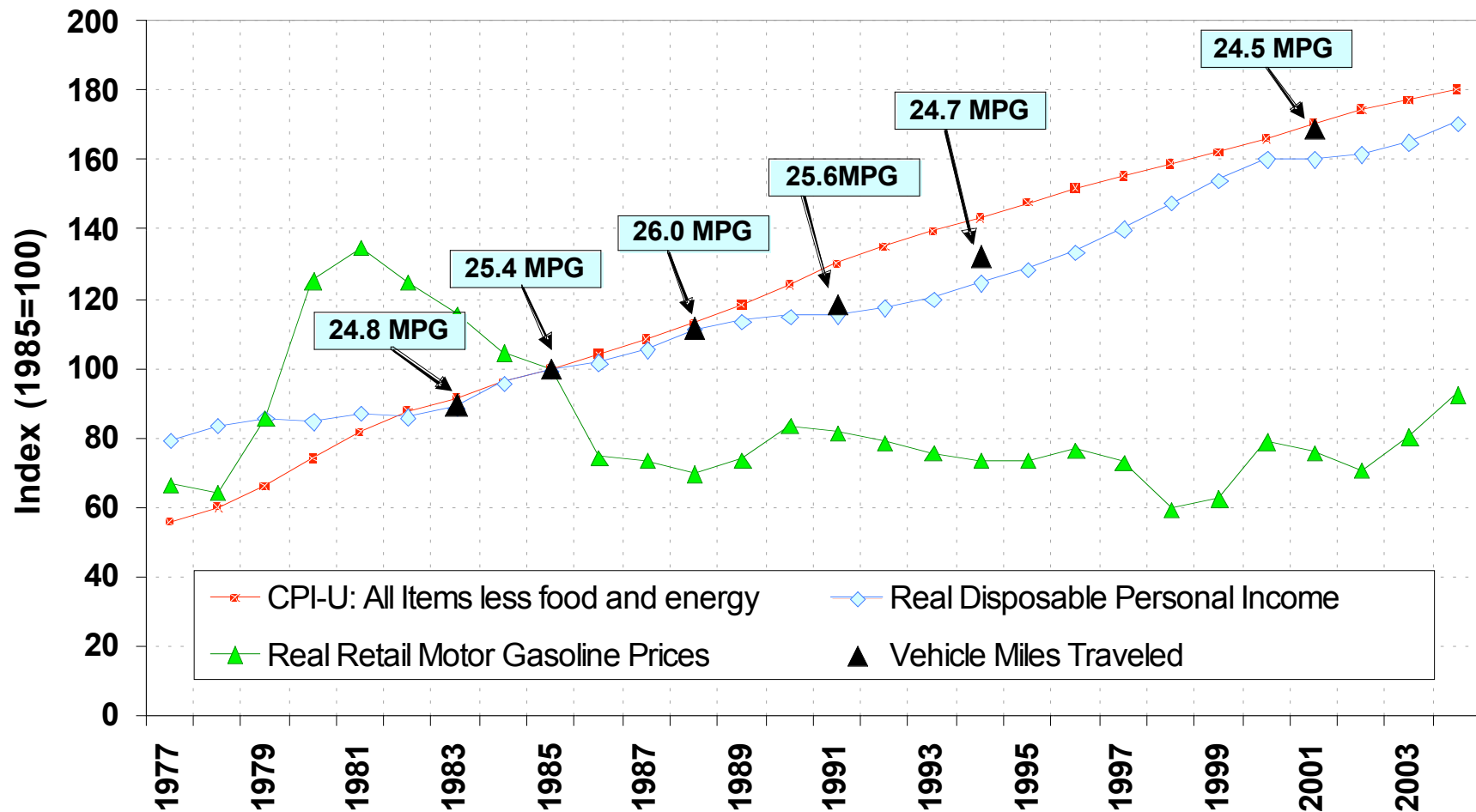
Sources: Energy Information Administration (EIA) – California retail prices. CA BOE – taxable gasoline fuel sales. Alaska crude oil prices – Wall Street Journal.



Sources: Energy Information Administration, National Household Transportation Survey, BLS, U.S. Census, California Board of Equalization, Motor Gasoline Taxable Sales Volumes.



## U.S. Annual Indices of Real Disposable Income, Vehicle Miles Traveled, Consumer Price Index (CPI-U), Average Fuel Economy, and Real Average Retail Gasoline Prices (1978-2004, 1985=100)



Sources: Energy Information Administration (EIA), National Household Transportation Survey (NHTS), and Bureau of Labor Statistics (BLS).

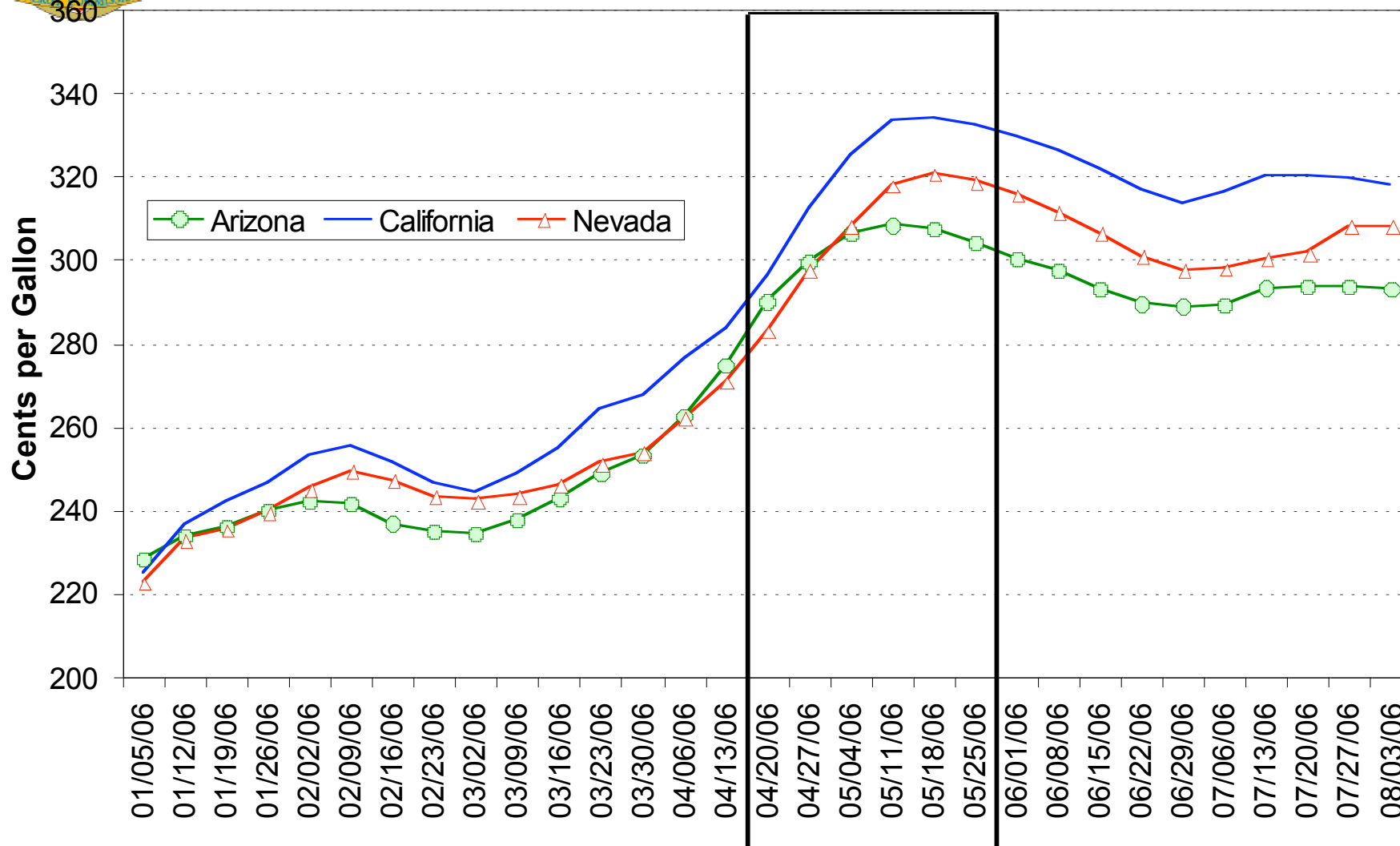


## Regional and Statewide Retail Gasoline Price Variations

- Price spike was not isolated to California's market
- Retail prices in neighboring states that are supplied by California refineries demonstrated the closest correlation
- States more distant from California did not demonstrate a similar relationship
- California retail distribution margins declined and were temporarily negative during the spike in wholesale gasoline prices



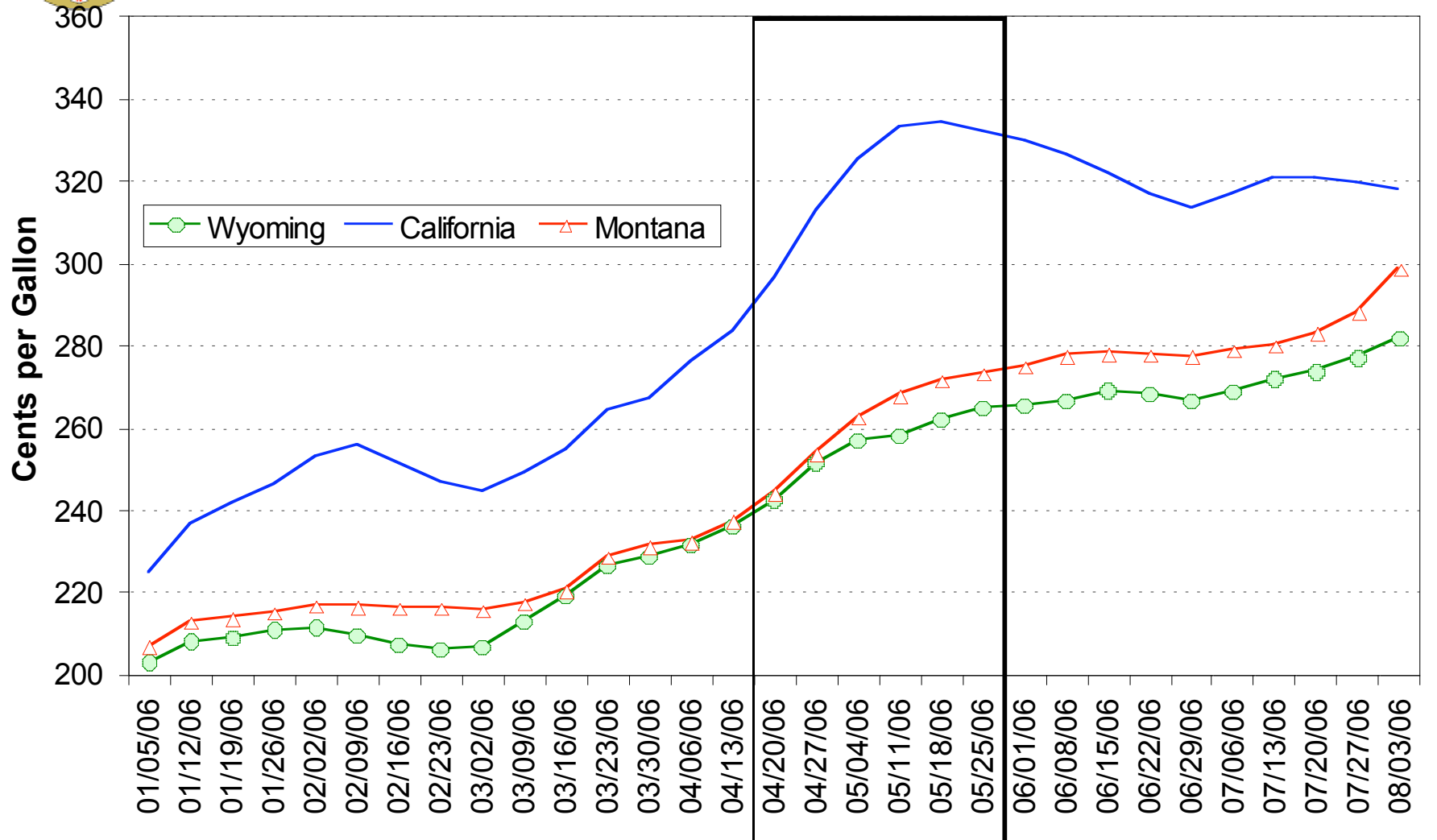
## Retail Gasoline Price Comparisons (Arizona, California, and Nevada)



Source: Oil Price Information Service (OPIS).



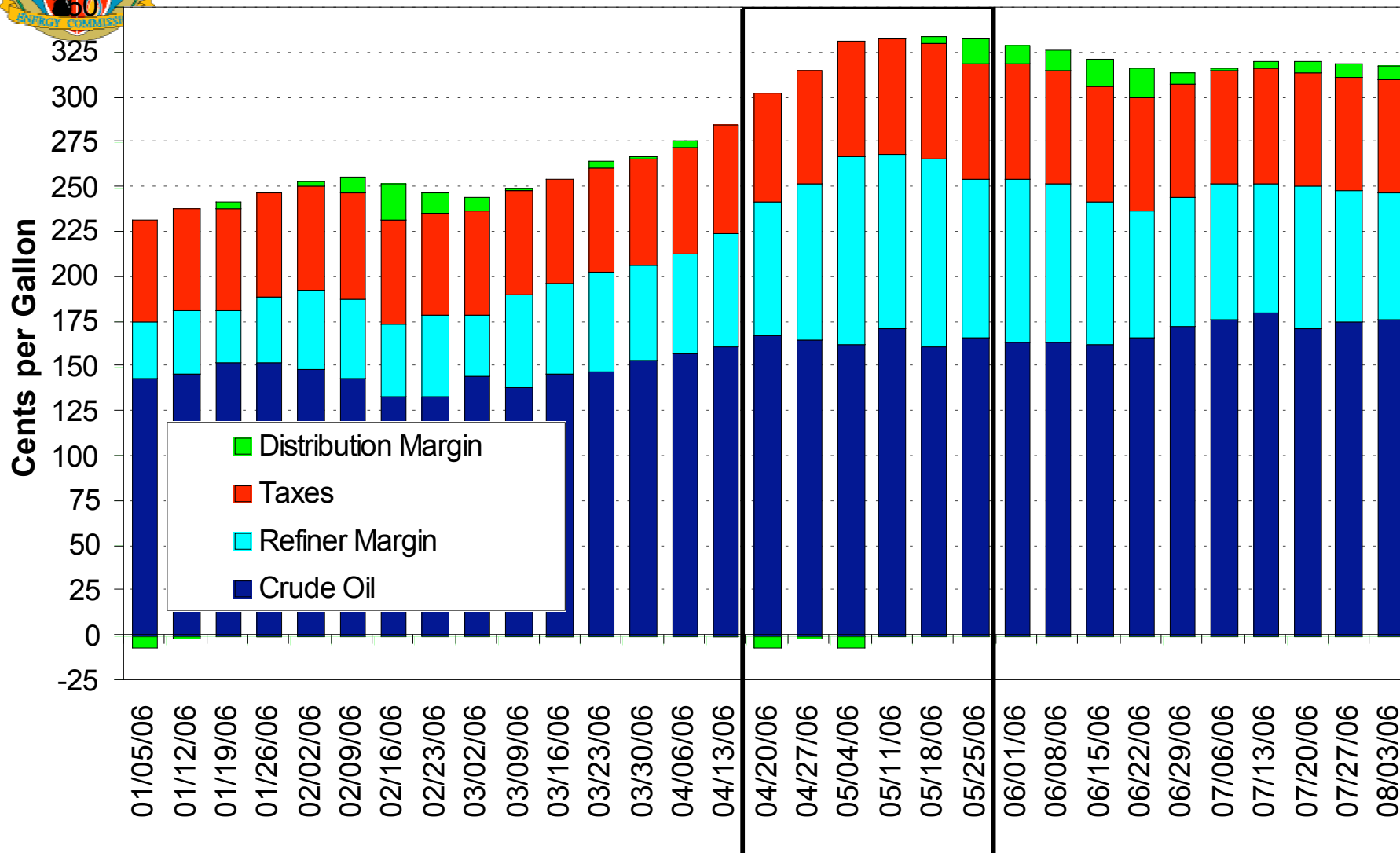
## Retail Gasoline Price Comparisons (California, Montana, and Wyoming)



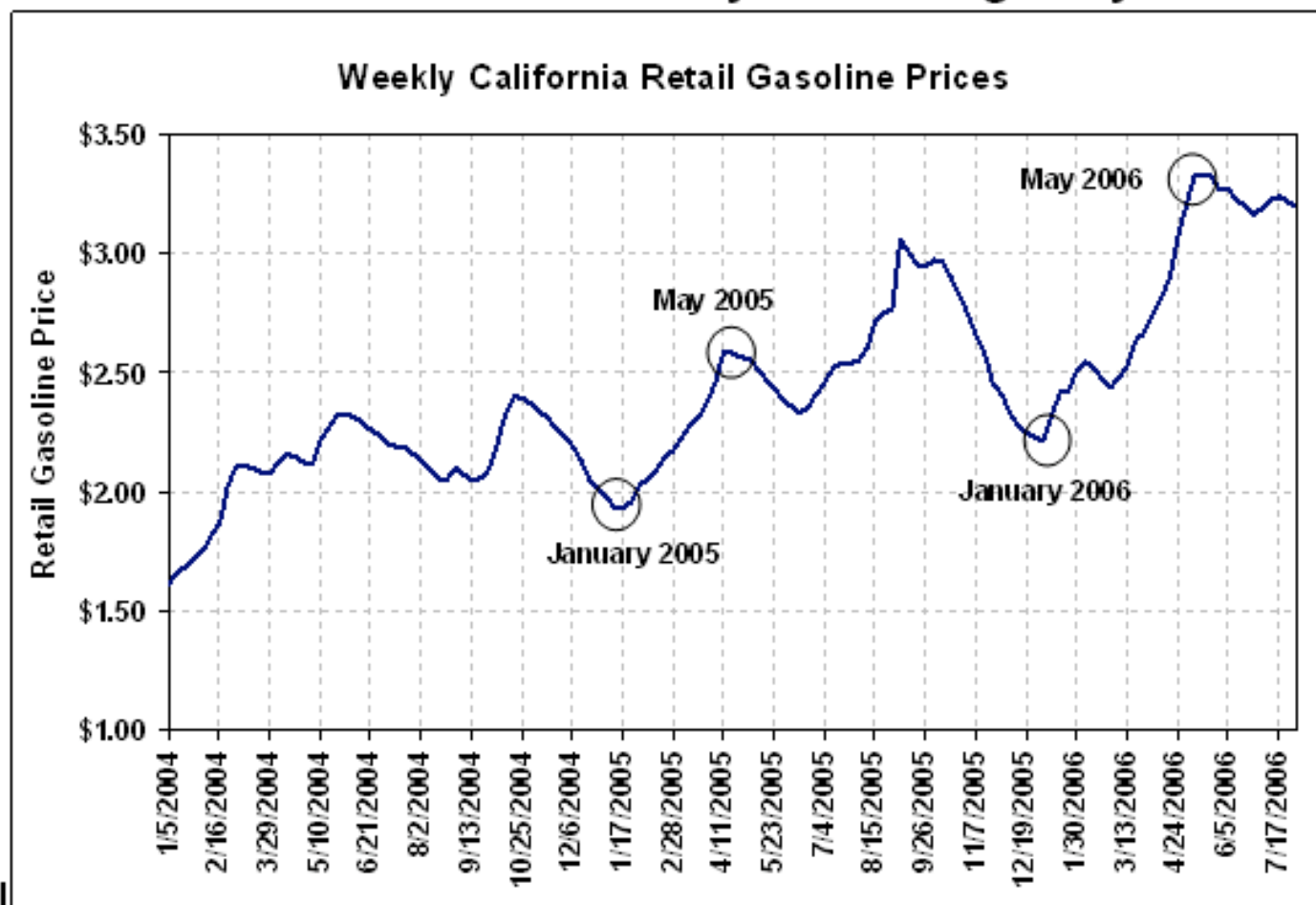
Source: Oil Price Information Service (OPIS).



## California Gasoline Margins



Source: CEC staff analysis Oil Price Information Service (OPIS) data.

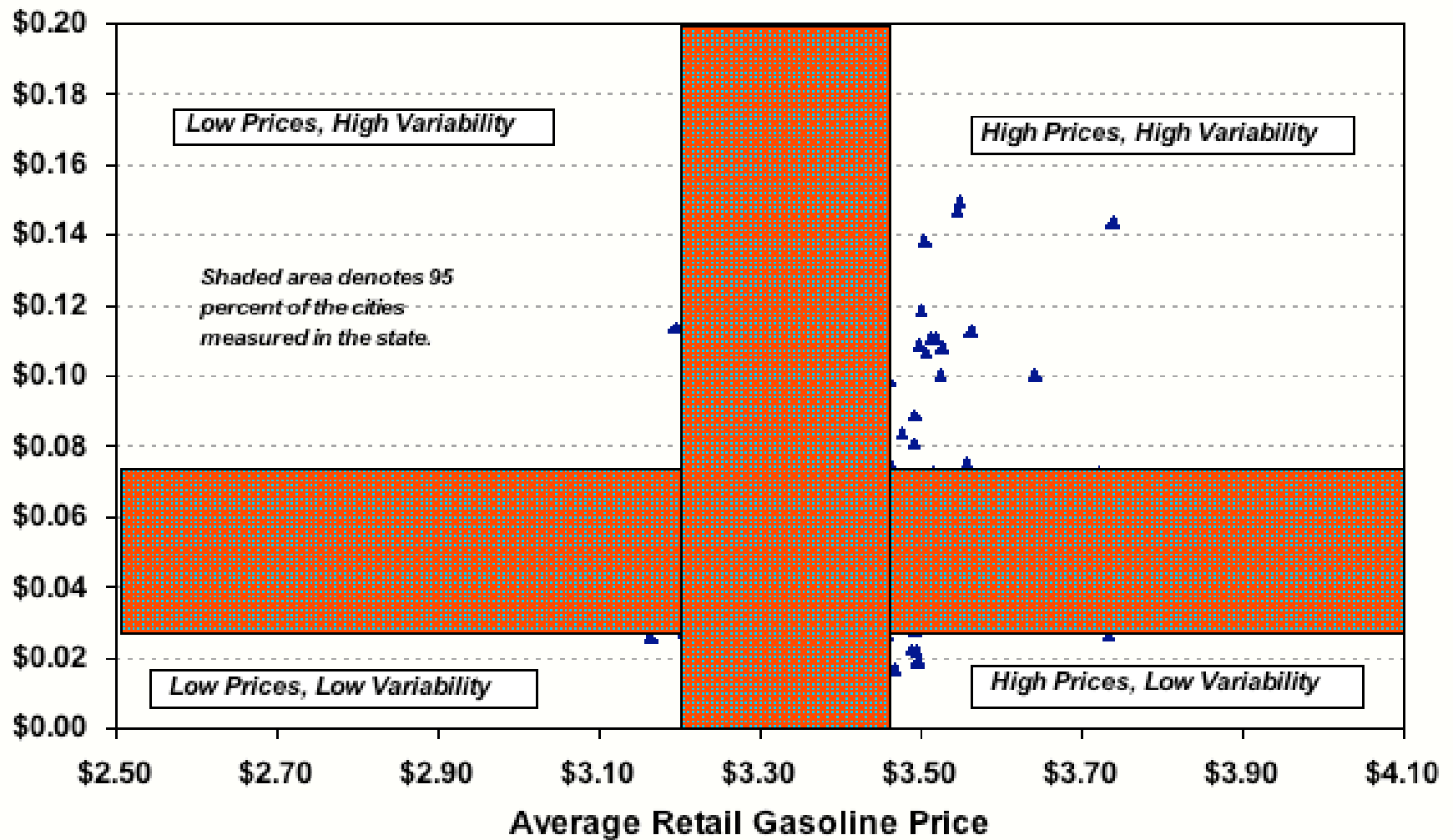


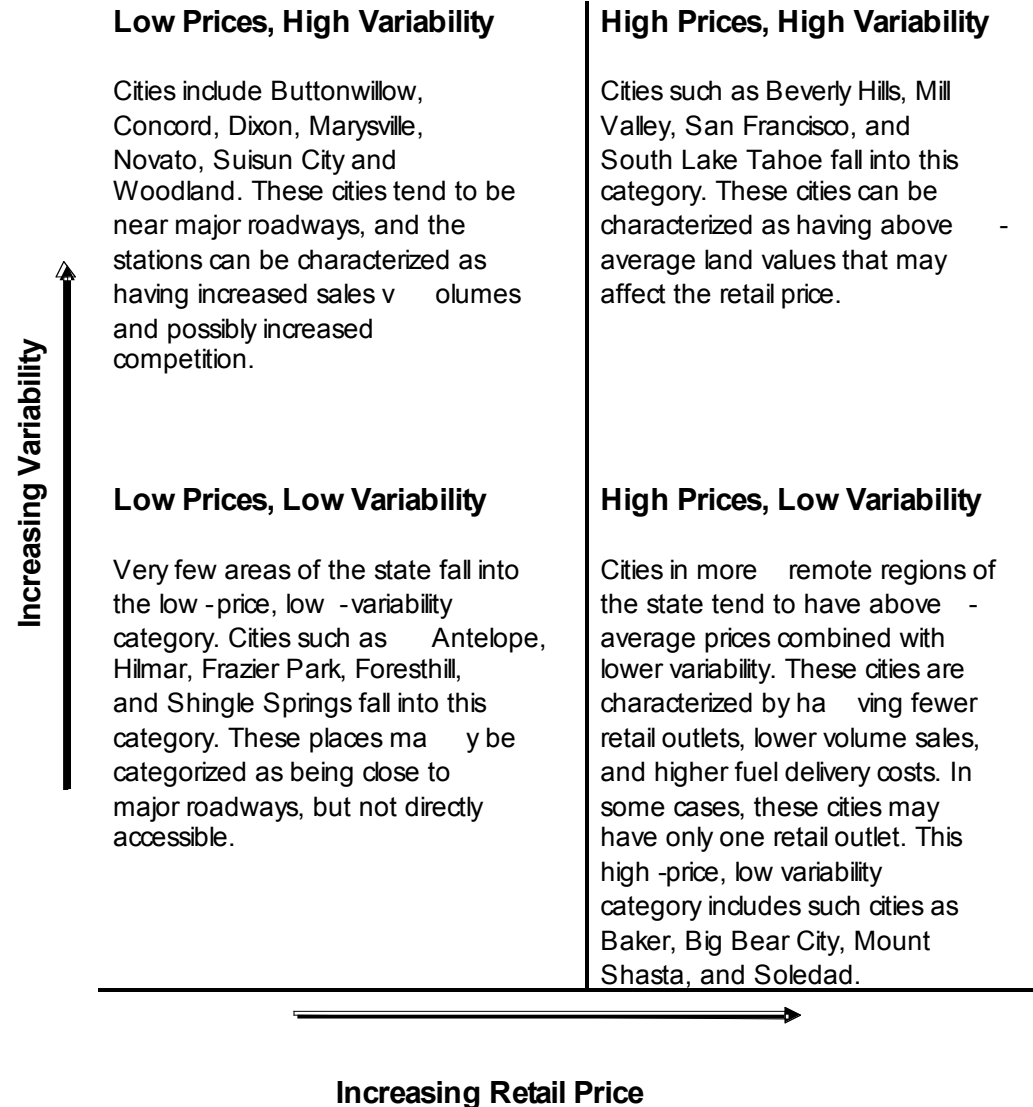
Source: CEC staff analysis of Oil Price Information Service (OPIS) data.





## California City Analysis of Gasoline Prices (May 2006)

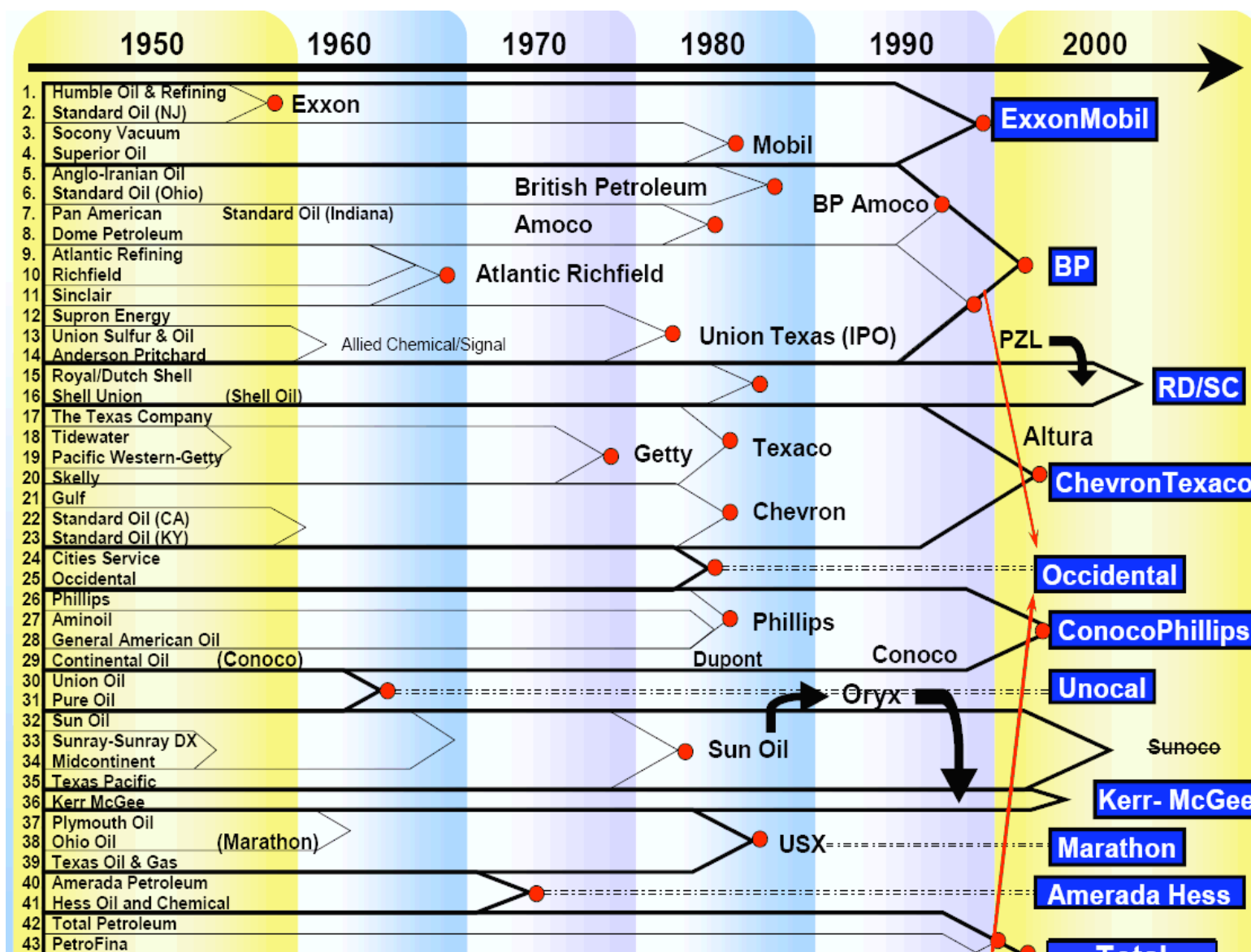






## Financial Data of Petroleum Companies

- Petroleum industry has consolidated over the last 50 years
- Several measures of profitability were used to compare major oil companies with other integrated oil companies on an international level.
- The companies in the petroleum industry were grouped into the following categories: exploration & production (E&P), integrated, and refining & marketing (R&M).



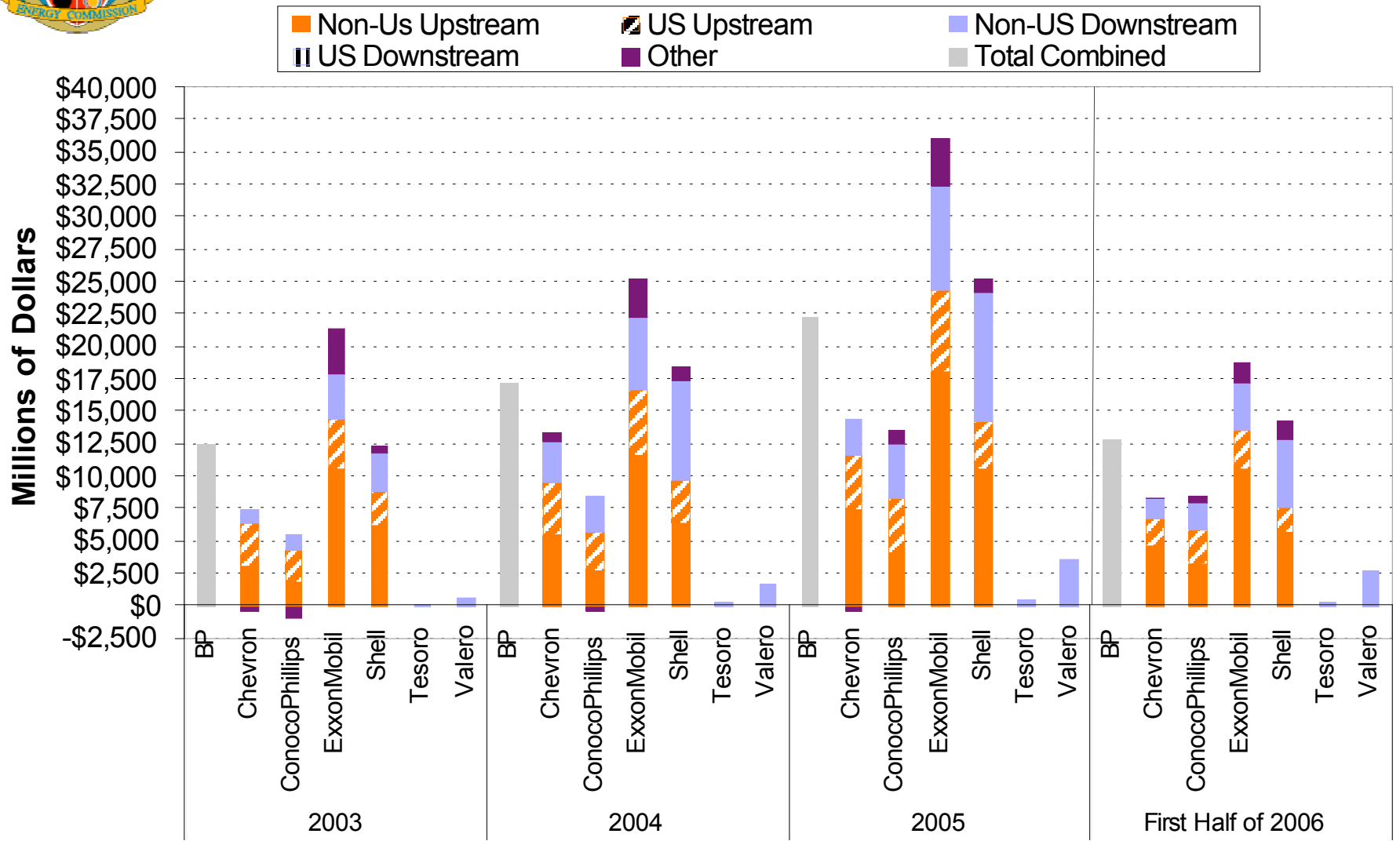
Source: Used with the written permission of John S. Herold, Inc.



Company	Type	Number of Calif. Refineries	U.S. Based Company	Foreign Based Company
BP	Integrated	1		✗
Chevron	Integrated	2	✗	
ConocoPhillips	Integrated	2	✗	
ExxonMobil	Integrated	1	✗	
Royal Dutch Shell	Integrated	2		✗
Tesoro	R&M	1	✗	
Valero	R&M	2	✗	



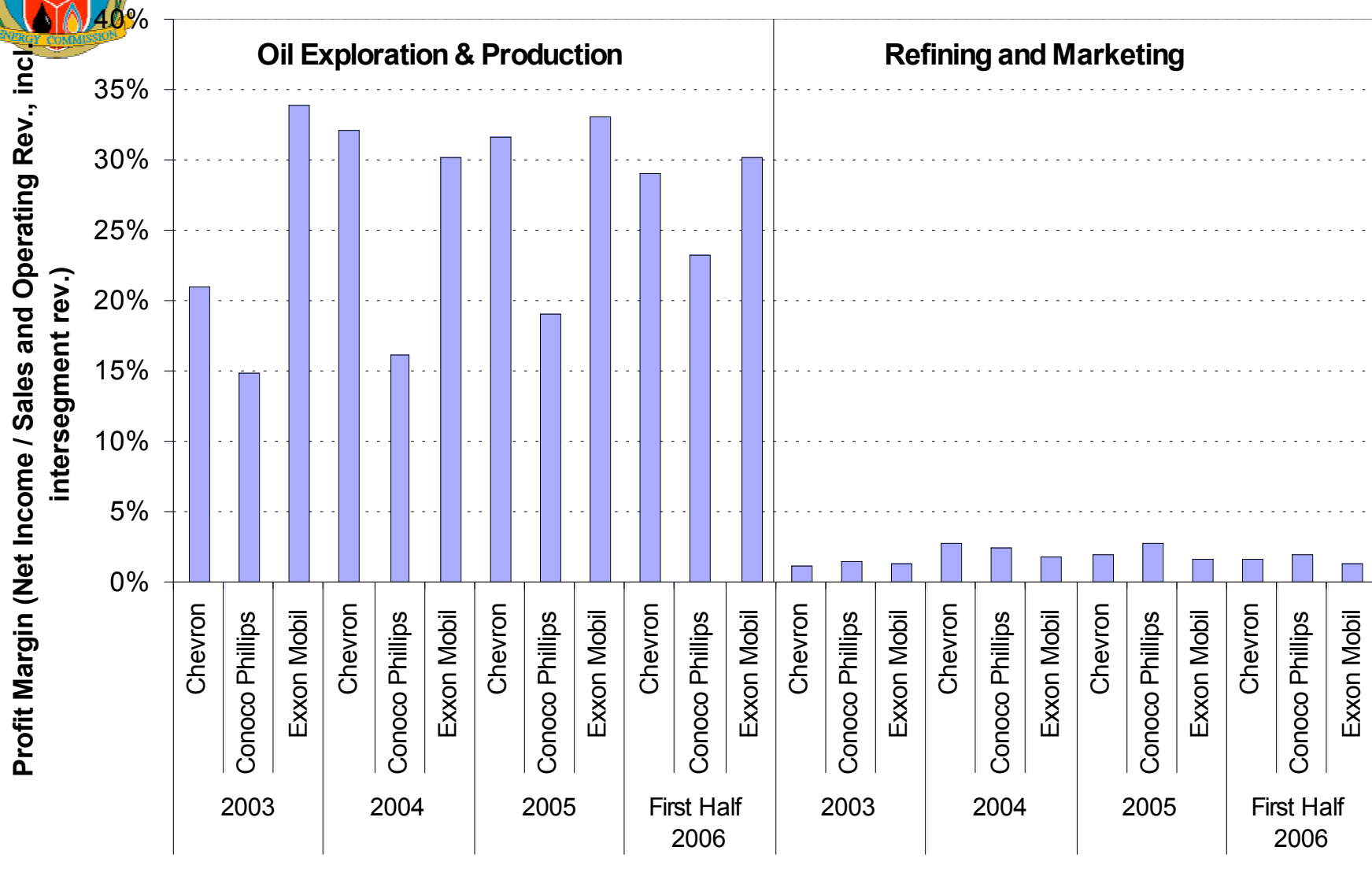
## Worldwide Net Income and Sources



Source: CEC analysis of company management reports, SEC 10-K, 10-Q, 20-F, and 6-K filings.



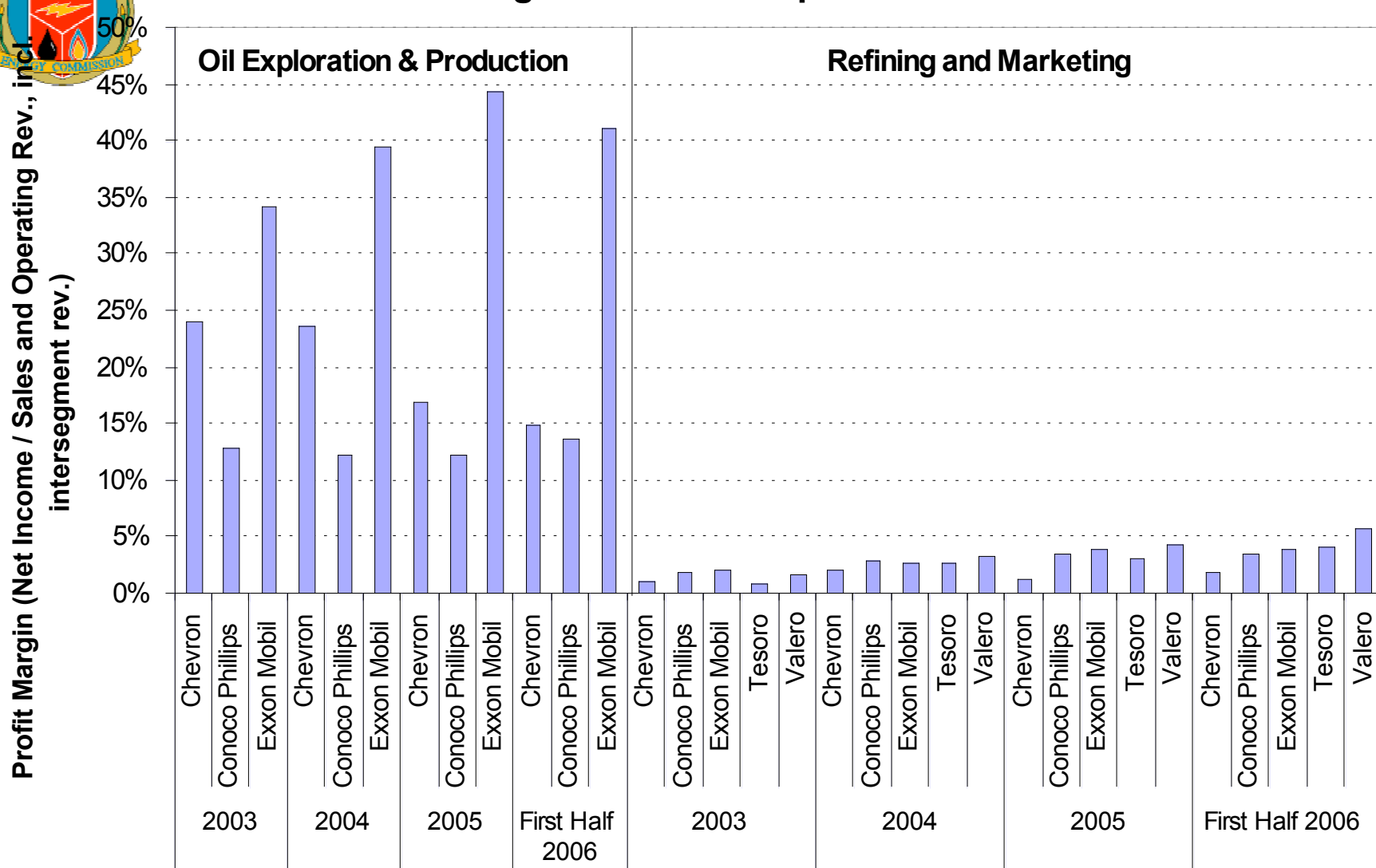
## Profit Margins from Non-U.S. Operations



Source: CEC analysis of company management reports, SEC 10-K, 10-Q, 20-F, and 6-K filings.



## Profit Margins from U.S. Operations



Source: CEC analysis of company management reports, SEC 10-K, 10-Q, 20-F, and 6-K filings.





# Summary



## Factors that Contributed to Price Spike

- Refinery Operations & Impact on Production
  - Gasoline production was lower due to unplanned refinery outages
- Inventory Levels
  - Gasoline levels were declining, but that is normal for the spring
- Pipeline Exports to Neighboring States,
  - Higher than 5 year average for gasoline
  - Higher than 5 year average for diesel fuel
- Congestion at Marine Terminals for Petroleum Imports
  - Increased at time of wholesale gasoline price spike
- March 2006 Alaska North Slope crude oil distribution system leak
  - Crude oil production declined by 100,000 barrels per day for 5 weeks
- Transition to New Fuel Specification
  - National transition away from MTBE (methyl tertiary butyl ether) to ethanol increased price for important gasoline blendstock - alkylate
  - Switch to Ultra Low Sulfur Diesel (ULSD) on June 1, 2006 created a buildup of inventories that were held in reserve as a precaution against startup problems for the new refinery equipment